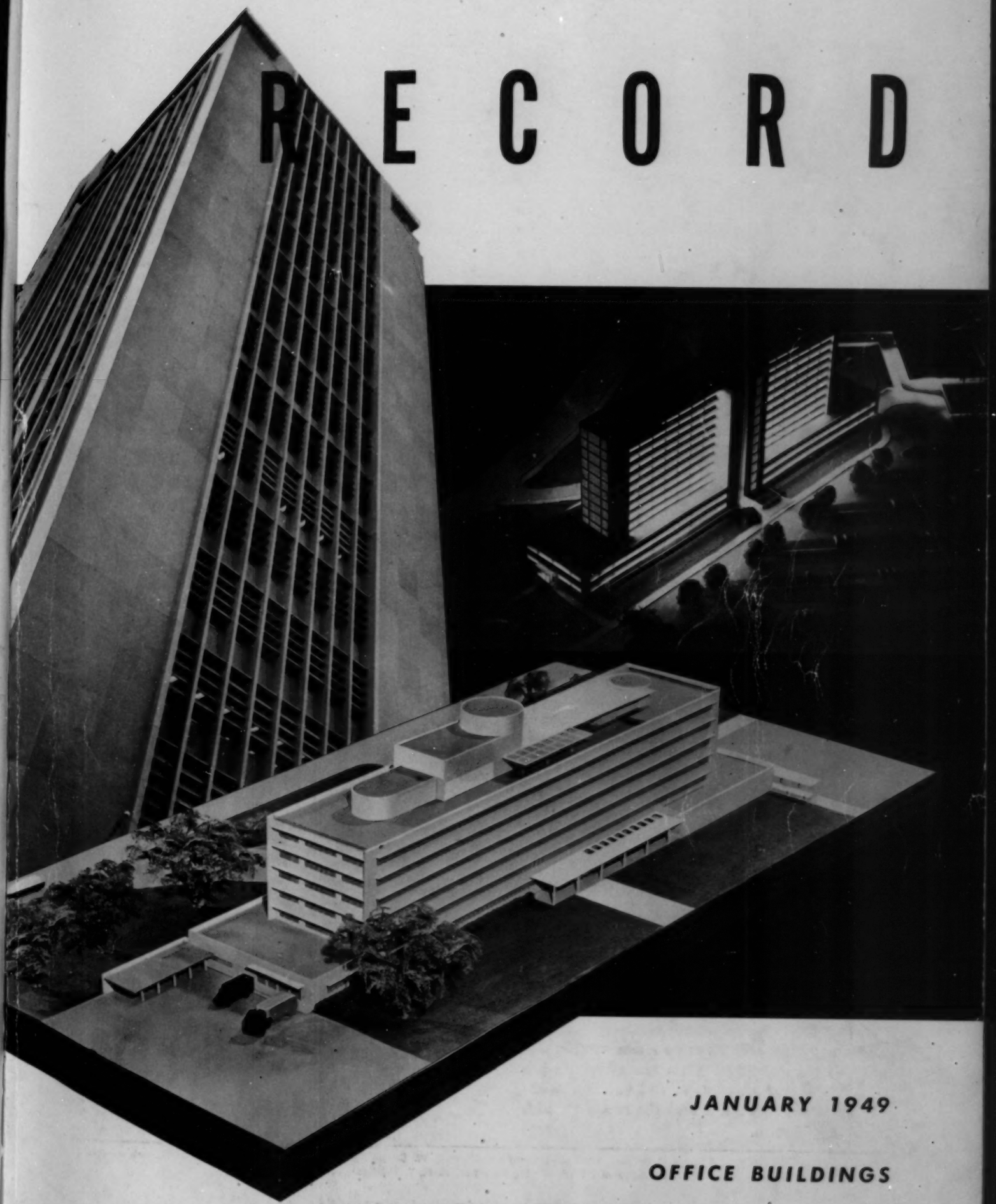
ARCHITECTURAL RECORD



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ARCHITECTURAL RECORD

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THE RECORD REPORTS

Many Measures Affecting Construction Industry Expected as New Congress Convenes, with Public Housing, Labor and Controls Taking Limelight

The construction industry has three phases of legislative activity to watch during the current session of Congress. These may be roughly stated as follows:

1. Direct housing legislation based on administration plans, the Democratic platform, and leadership in the field in both the House and the Senate.

2. Labor legislation with its ramifications into the construction industry through secondary boycotts, jurisdictional disputes and other labor action.

3. General economic legislation — labeled anti-inflationary — with potential authority over scarce materials and prices.

New developments in all three of these fields outside the Congress also warrant attention.

While the Democratic majorities in both houses indicate improved prospects for the Administration's program, some of the previous difficulties still remain through possibility of conservative Democrats (particularly those disturbed by civil rights proposals) going along with the Republican minority. A key point on housing legislation, of course, is the House Banking Committee, where so often housing bills have met defeat.

Legislation on Tap

As far back as Thanksgiving, HHFA Administrator Raymond M. Foley began talking of the forthcoming legislative program to cover points left out of the Housing Act of 1948. Still sought is a Congressional declaration of a national housing policy. Sought too is a renewal of aid to communities for low-rent housing projects with preference to low-income World War II veterans.

Plans also include loans and grants for slum clearance projects so that "the land when cleared may be sold or leased at sound re-use values for private or public redevelopment in accordance with loan plans, and with the locality sharing the net cost of clearance." On rural housing, financial aid is sought whereby the Secretary of Agriculture may make advances to farmers for constructure of farm dwellings and for minimum repairs of substandard farm housing.

More Research Desired

Expansion of the research program under the 1948 Act, where it is limited to standardized building codes and materials, is a part of the current legislative goals. General aim of the research would be cost reduction. It would deal with more efficient home building techniques, methods, and new materials, and the development of adequate economic and statistical data on needs and markets.

Further aids to stimulate production of low-cost private sales and rental housing are in the picture. HHFA insists that a large proportion of middle and lower-middle income families have been "increasingly priced out of the market by the persistent rise in housing costs and prices." It stresses no overall panacea but rather "a multitude of minor savings achieved through closer figuring, better planning and increased productivity . . . concentrating to a greater degree on the mass low-cost market . . . using fully the additional credit aids now available."

One-year continuance of rent controls beyond next March 31 also is on the legislative slate. Changes in controls now operating would provide control over evictions, triple damages to tenants who are overcharged, and criminal penalties for rent ceiling violations, including fines or jail terms or both.

Union Boycott Is Issue

Point to the labor legislation is given by the recent action of the National Labor Relations Board in a secondary boycott case in the building industry, based on the Taft-Hartley Act. In this first ruling on secondary boycotts the Board ordered a local unit of the United Brotherhood of Carpenters and Joiners to stop calling off its workers from construction of a home with a view to forcing the owner to discontinue doing business with a non-union material dealer (Ira A. Watson Co., Chattanooga, Tenn.).

Just what will be the outcome of the secondary boycott provision when the current Congress finishes with the law is far from certain. While President Truman back in 1947 spoke out against the secondary boycott, he did so in limited language, specifically stating that "not all secondary boycotts are unjustifiable." He opposed a blanket provision against boycotts and recommended "legislation which prohibits secondary boycotts in pursuance of unjustifiable objectives."

Also in question is the set-up of the NLRB itself. Procedures and membership as well as basic law may be shifted. For one thing, the President wants to centralize authority in the Department of Labor and build up the Department but whether the Board's activity will wind up there is another question.

Control Powers Sought

On economic legislation, it must be remembered that President Truman previously had asked for stand-by price

(*Continued on page 10*)

"What's the use of living in the country if you never go inside and work on the garden?"
— Drawn for the RECORD *by Alan Dunn*

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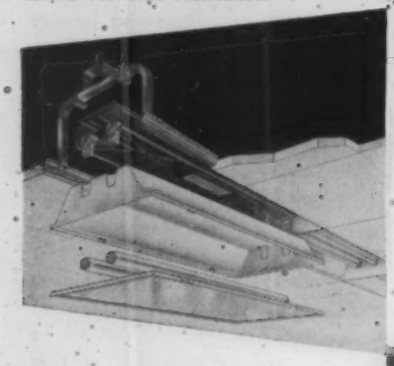
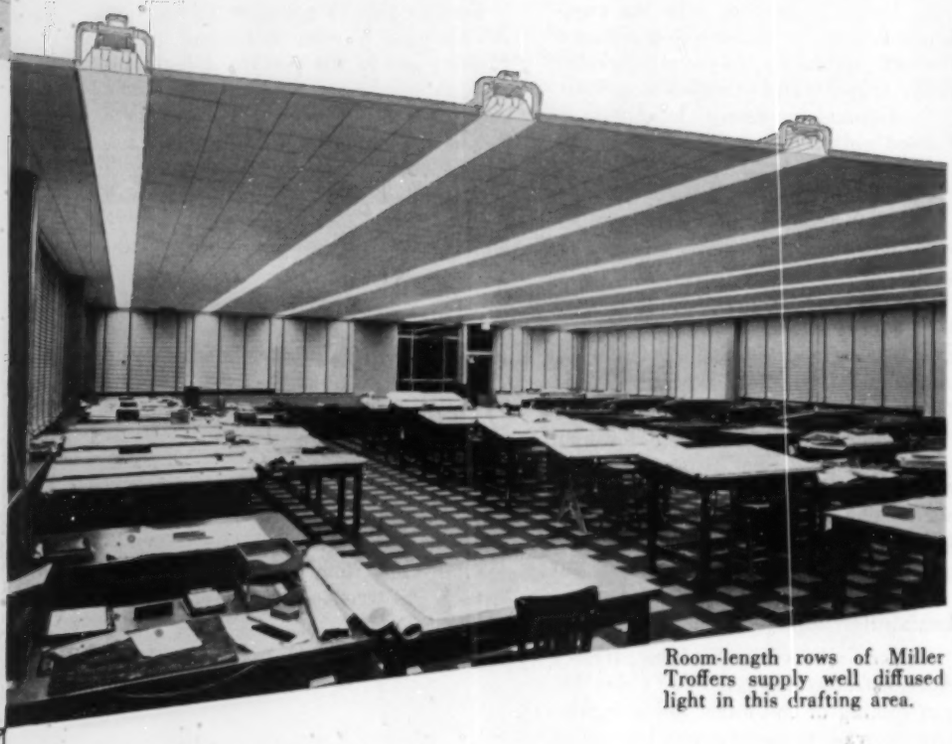
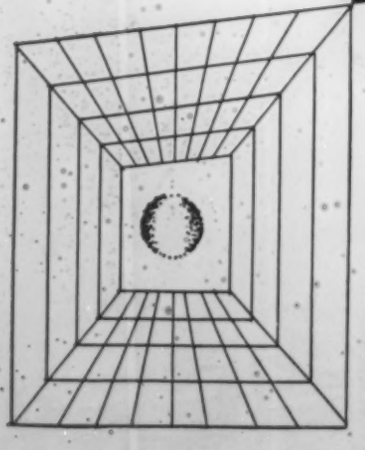




Room-length rows of Miller Troffers supply well diffused light in this drafting area.



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THE RECORD REPORTS

(*Continued from page 7*)

and rationing powers which he could use if circumstances warranted, and that he lambasted the 80th Congress because it did so little on inflation controls. He is concerned over living costs and the continued increase in prices on basic commodities but he is concerned fundamentally over inflation.

His current proposals go back to his earlier suggestions but stem more particularly from an overall study made by his Council of Economic Advisers and other first-hand data and advice. Whatever is done presumably will replace the voluntary allocation program which the Commerce Department has been carrying out under the law written by the Republican Congress in December, 1947.

The prospects were outlined as follows by Commerce Secretary Charles Sawyer:

"We are living in a time when nearly every basic industry is producing at or near maximum capacity," he said. "This is true of iron and steel, the non-ferrous metals, petroleum, construction, transportation, and electric power. Even with these industries working at or near capacity, supplies of many materials are insufficient to fill the domestic demand and at the same time take care of our commitments abroad. Under these conditions it seems likely that an allocation program may be needed for some time. This will be even more true if military expenditures are increased. . . . Now we have virtually full employment of our human and technical resources; we are faced with material and manpower shortages; and our stability is threatened by inflationary pressures. . . . Avoiding controls will certainly require teamwork and rigid restraint on the part of those who are entrusted with our military effort."

Secretary Sawyer cagily tied in his reference to economic controls to an expanding military budget. He made his asserted need for allocations appear contingent upon the economic effects of an expanding defense expenditure and that for price controls contingent upon a cooperative industry attitude in keeping the inflationary spiral in check.

Note that the Truman Administration also wants to provide greater social security benefits and to have them reach more people. There is renewed pressure for a national health program, including hospitals and clinics, and for federal aid to education.

New Act Applied

Meanwhile administrative agencies are moving ahead on 1948 Congressional enactments. HHFA is sponsoring meetings to get the voluntary cooperation of the industry "in devising and carrying out a practical method of producing lower-priced housing." It is proposing that lending institutions and other sponsors work toward the goal of more moderate rental housing, that they participate actively "in the new programs of insurance of mortgages on cooperative housing projects and of direct investments in rental housing."

FHA has completed its rules and regulations for rental housing yield insurance. These require that the average rental for all units in a project, including heat and other customary services, shall not exceed $100 and that the maximum for any individual unit is $120. They provide that earnings over a specified amount must be applied to amortization of the investment. If the venture doesn't pan out well and claims reach 15 per cent or more, FHA has the

(*Continued on page 14*)

NEWS FROM CANADA

By John Caulfield Smith

Housing Gets Second Wind

Buoyancy of the housing market continues to amaze observers. After some hesitation during the summer, contracts appear to be climbing to new heights for both physical and dollar volume. House building awards in the first 10 months of 1948 reached $325 million, nearly double the total for the same 1947 period, according to MacLean Building Reports.

Commercial and institutional building at $255 million was up 26 per cent over 1947 and engineering works at $176 million were up 13 per cent. The weak point was industrial building which, with awards totaling $59 million, was down 42 per cent. On contracts for all construction for the first 10 months of the year, 1948 at $815 million led 1947 by 31 per cent.

Lending Values Lively Issue

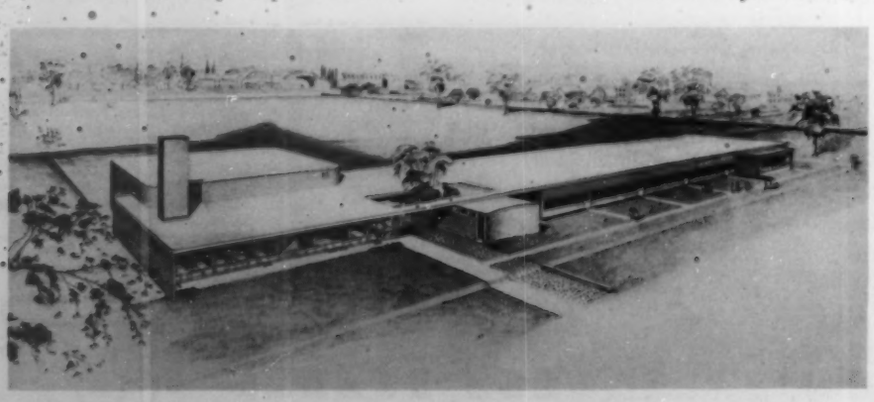
Among organizations appealing for higher lending values to Central Mortgage and Housing Corporation (the Dominion Government agency administering the National Housing Act) none has been more vociferous than local chapters of the National House Builders' Association. Latest to join the hue and cry is the one in Edmonton, Alberta. The Edmonton Home Builders' Association claims that lower down payments are an urgent "must" for prospective buyers in the low-income bracket, if pressure for subsidized rental housing is to be reduced.

Central Mortgage's reply to this and similar pleas was given when D. B. Mansur, president, recently addressed the annual convention of the Canadian Association of Real Estate Boards. Mr. Mansur said, "We feel that there are many costs involved in present-day construction which should not be capitalized into the long-term mortgage debt of the home owner. Another reason why lending values haven't been increased is our experience in 1946 when, after an increase in lending values, we soon found that sale prices were being nearly correspondingly increased."

Alberta Builders to be Licensed?

The Alberta Government recently heard representations from the Calgary Home Builders' Association calling for the licensing of house builders and general contractors throughout the province. The Association also asked that it be made compulsory to supply a surety bond with any building contract signed, requiring completion according to the

(*Continued on page 132*)



School for New Toronto Civic Centre, designed by John B. Parkin Associates, Architects, will be one story, with steel frame, brick walls, aluminum sash with glass block above

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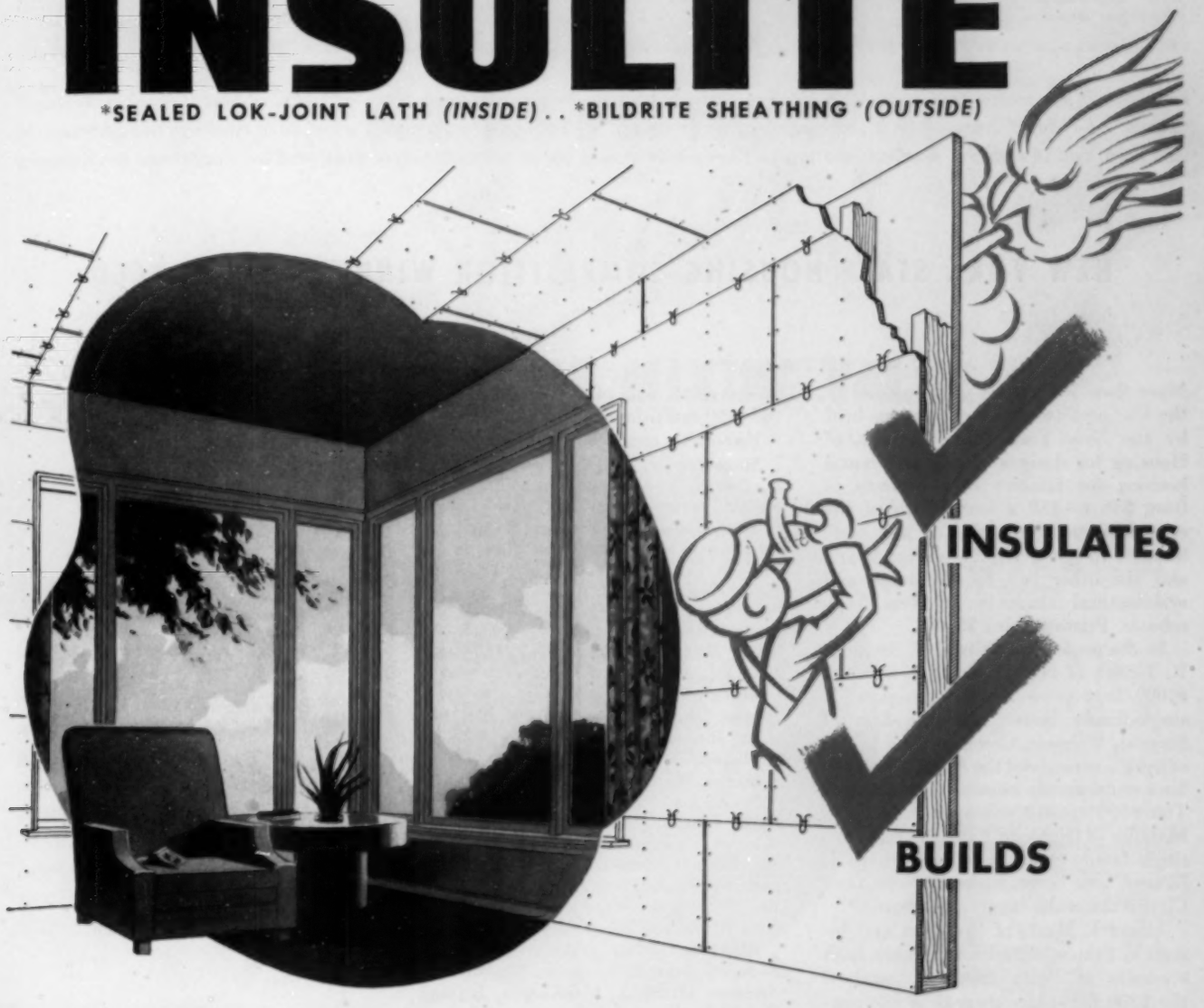

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Refer to Sweet's File, Architectural Section 10a/9

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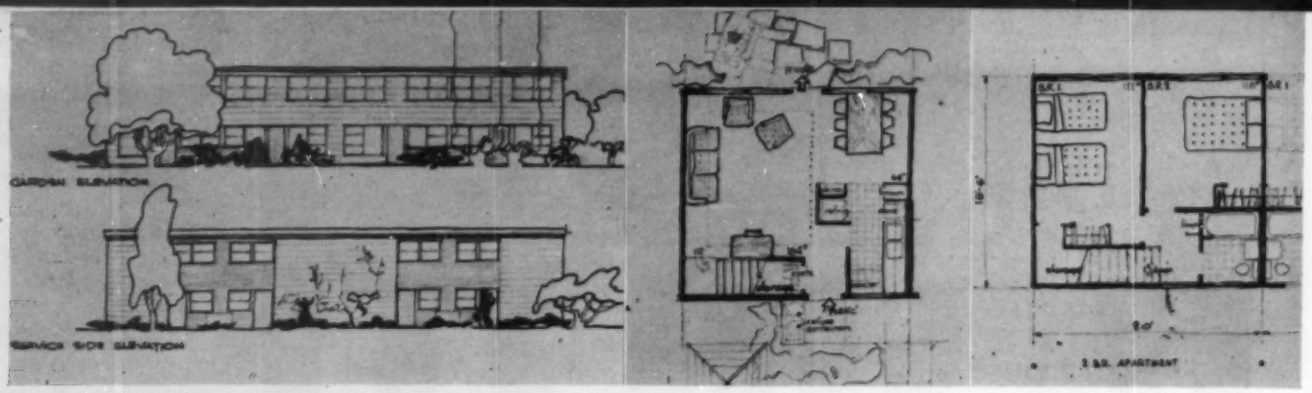


First prize in the professional competition for a multi-family housing development went to the architectural firm of Sargent, Webster, Crenshaw & Folley of Syracuse, N. Y., for the design shown above. The plan calls for 76 duplex units, 48 of them with two bedrooms, 14 with three, and 14 with one. Buildings are grouped irregularly around site in blocks of two or three, and each apartment has a terrace

NEW YORK STATE HOUSING COMPETITION WINNERS ANNOUNCED

More than 300 entries were received in the four architectural competitions held by the New York State Division of Housing for designs of sale and rental housing for families with incomes of from $46 to $58 a week. Two of the competitions were open to architects licensed to practice in New York State, and the other two to draftsmen and architectural students at New York schools. Prizes totaled $3600.

In the professional division, Seymour R. Joseph of New York City won the $1000 first prize for the design of a single-family house, and the firm of Sargent, Webster, Crenshaw and Folley of Syracuse received the $1000 top award for a multi-family housing development. The $500 second prizes went to Louis Mannier of Highland Falls, N. Y., in the single-family group, and to Gerhard J. Graupe and Serge Klein of New York City in the multi-family classification.

Albert J. Marlo of Brooklyn and Joseph V. Franco of Jackson Heights, both students at Pratt Institute, received the $200 first-place awards in the non-professional division, Marlo the single-family and Franco the multi-family. Franco also won the $100 single-family second prize, and another Pratt student, Joseph Zito, Jr., of Jamaica, received the $100 multi-family second prize.

Honorable mentions follow:

Single-family, professional — Seymour R. Joseph, New York; Charles G. Cano, Mount Vernon; John R. Edgar, Lackawanna; Roderick Seidenberg, Pipersville, Pa.; Joseph Shilowitz, Jersey City, N. J.; Vincent Furno and Bernard J. Harrison, New York; Richard Haviland Smythe, New York; Anthony A. Grasso, Brooklyn; Antonin Raymond and L. L. Rado, New York; William E. Kohn and Henry L. Horowitz, Brooklyn.

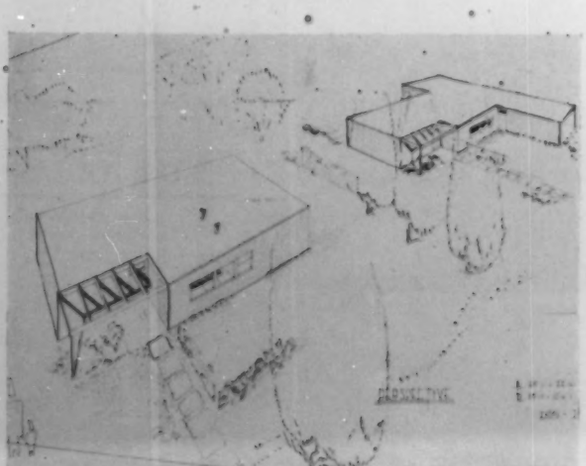
Multi-family, professional — William Breger, New York; Caleb Hornbostel, New York; Roger G. Spross, Flushing; Edward R. Tauch, Jr., New York; Henry Dwight Whitney, Washington, D. C.

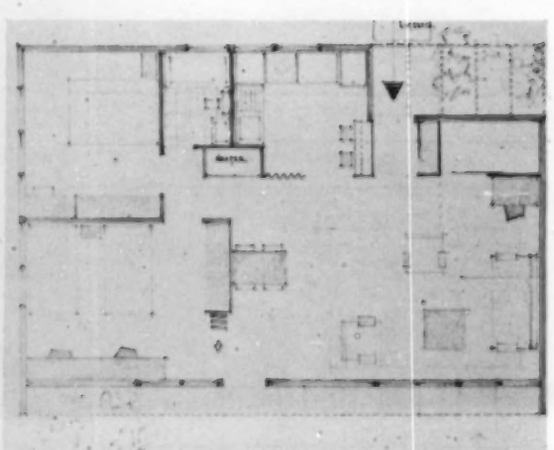
Single-family, non-professional — Edward Tirnetta, Joseph Zito, Jr., Gary Wiesner, George S. Sharon, Mary Linberger, Fred R. Beutel, William Golub and Jack Friedin, all students at Pratt Institute; Ronald E. Woodward and Jon McKee, Rensselaer Polytechnic Institute.

Multi-family, non-professional — David L. Jacob, John J. Flemming, Theodore G. Andrew, Arthur A. MacKnight, Jr., and Robert B. Sherman, students at Syracuse University; Maro Daly, Henry L. Horowitz and James J. Giacopelli, Pratt Institute; and R. Frank Winne, Rensselaer Polytechnic Institute.

Judges and officials examine some of the 300-odd entries. Above: Randolph Evans, Commissioner Herman T. Stichman, George Bain Cummings, William Lescaze (Professional Adviser), George Nemeny, Henry L. Blatner, Edward D. Stone. Below: William Lescaze, Commissioner Stichman, Perry C. Smith, Louis Skidmore, G. Harmon Gurney, James Kideney, and Ely J. Kahn

Albert J. Marlo, student at Pratt Institute, won first prize in the single-family house competition in the non-professional division with the compact design shown below





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CANAL BUILDING
NEW ORLEANS 4, LOUISIANA

THE RECORD REPORTS

(*Continued from page 10*)

right to acquire the project.

Also under the 1948 Housing Act FHA has begun its commitments to insure short-term loans to manufacturers to finance the production of prefabricated houses. First commitment was to Reliance Homes, Inc., of Philadelphia, and the second was to New Jersey Permacrete Corp., also at Philadelphia. The first company plans light-gauge steel houses and the second will make houses of poured concrete.

Building Codes Pushed

HHFA has worked out model legislation to let cities sidestep some of the costs involved in adopting a revised building code. The Council of State Governments has cooperated in this, along with the Department of Justice and the Department of Commerce. Under the proposal, which has been worked out under the 1948 Housing Act, a city can adopt a model code "by reference" instead of publishing the full text. An appropriate local official would have the responsibility of keeping the governing body appraised of changes that should be made in the code from time to time.

Technical research projects contemplated by HHFA's Standardized Building Codes Division include expansion of the Uniform Plumbing Code for Housing into a set of recommendations for industrial and commercial buildings, moisture condensation control, performance standards of septic tanks, investigation of lightweight aggregate concrete and similar materials, standards for wood construction, etc. The Division has joined with the sponsors of modular coordination — the American Standards Association, the American Institute of Architects, and the Producers' Council — in an educational campaign and has three booklets, one for the home owner, one for architects and designers, and one for the contractor and the small home builder.

Notable Odds and Ends

Other Washington developments of interest include:

1. While the Commerce Department expects new construction in 1949 to reach a value of $18.75 billion, it estimates that in physical volume the total will be about the same as in 1948. Public construction is expected to go up and to a lesser degree private non-residential building, including schools, churches, hospitals, and recreation buildings. The Producers' Council puts the figure at $18.1 billion and $7 billion in repair and maintenance work.

(*Continued on page 16*)

TRAFFIC STOPPER DE LUXE . . .

Chandlers Michigan Avenue - Architects, Holabird & Root & Burgee - Associate Architect, W. Emil Forman

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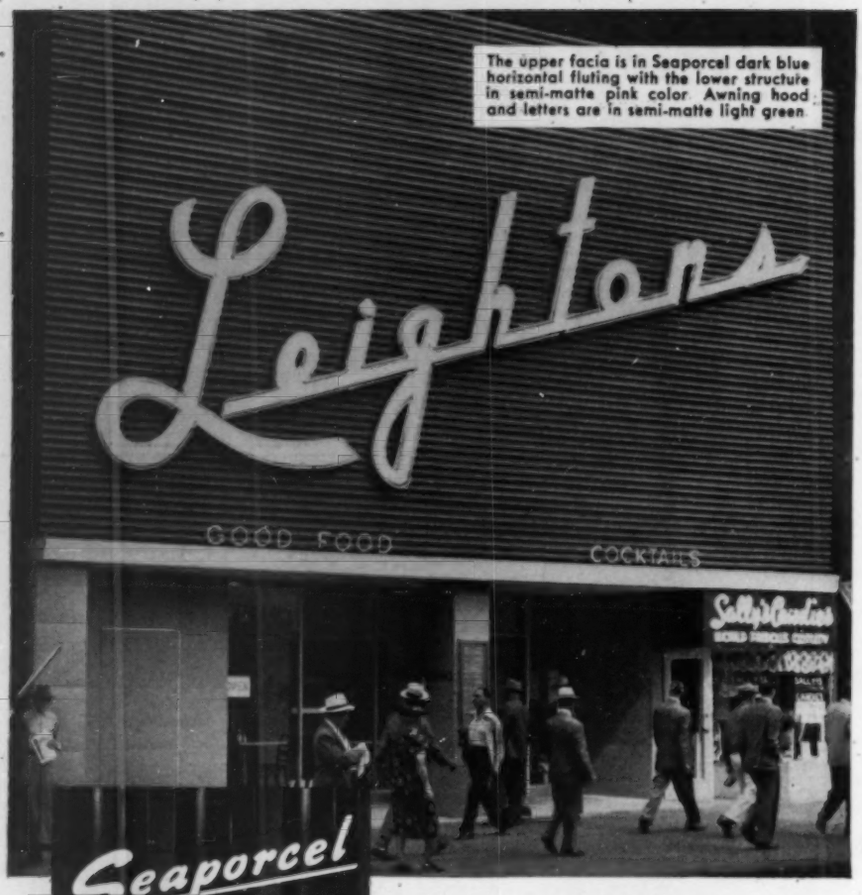
The upper facia is in Seaporcel dark blue horizontal fluting with the lower structure in semi-matte pink color. Awning hood and letters are in semi-matte light green.
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PRACTICAL

LIGHTWEIGHT • DURABLE • ECONOMICAL
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The entire facade of Leighton's new building in Los Angeles, California shows how one of a variety of Seaporcel "shaped" parts has been applied for esthetic as well as practical value.*

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THE RECORD REPORTS

(*Continued from page 14*)

2. Total lumber supply is rapidly overtaking demand, says the Lumber Survey Committee, and the trend from a sellers' to a buyers' market is well under way. Demand for upper grades of lumber remains comparatively firm but buyers are more selective and the market for lower grades has softened. Yards have become more cautious, maintaining minimum inventories.

3. Funds for planning or loans for construction under the Water Pollution Control Act will have to be provided by the new Congress before any work can be done. While authority for the program was given by the last Congress, no money was appropriated to carry out the projects. Procedures for getting financial aid for planning and construction of treatment works are under draft by the Public Health Service and the Federal Works Agency.

4. Under authority of the National Industrial Reserve Act of last July the Federal Works Agency has taken over a number of government-owned surplus war plants, which will be reconditioned and "put in mothballs" for use in case of national emergency. It is expected that the Industrial Reserve ultimately will include 100 or more industrial plants.

5. The National Association of Home Builders has set the date for its second annual National Home Week as next September 11–17, when home builders in leading cities will throw open model homes to the public and hold on-site demonstrations of the latest building methods.

❖ ❖ ❖

ON THE CALENDAR

Through Jan. 23: Exhibition, "Timeless Aspects of Modern Art," The Museum of Modern Art, New York City.

Jan. 10–14: 3rd National Materials Handling Show, Convention Hall, Philadelphia.

Jan. 13–15: Annual Meeting, Louisiana Engineering Society, St. Charles Hotel, New Orleans, La.

Jan. 24–28: 9th International Heating & Ventilating Exposition, International Amphitheatre, Chicago.

Feb. 12–20: 1949 Home Show of St. Louis, Kiel Auditorium, St. Louis, Mo.; sponsored by the Home Builders Assn. of Greater St. Louis.

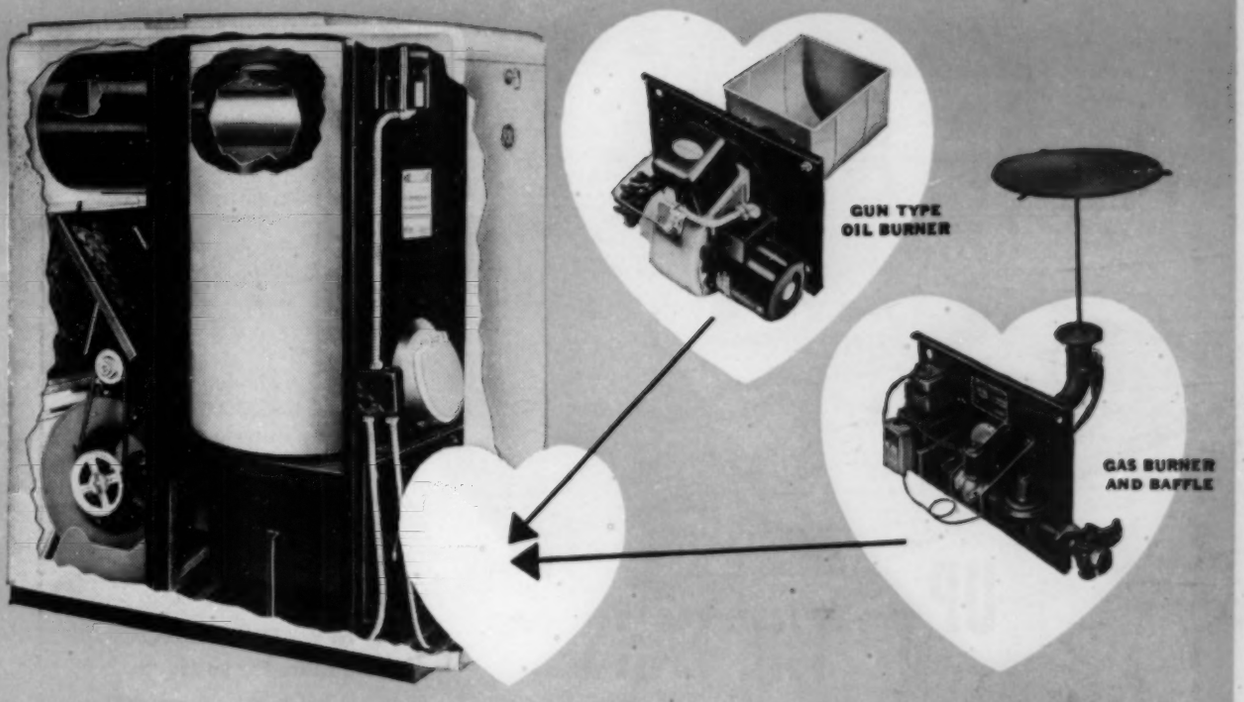
Feb. 20–24: "Home Building's Parade of Progress," Annual Convention and Exposition of the National Assn. of Home Builders, Stevens Hotel, Chicago.

Feb. 28–March 4: 1949 Spring Meeting

(*Continued on page 18*)

New Two-Fuel Winter Air Conditioner

—for either oil or gas!



—the RICHMOND furnace with "2 hearts"

easy to stock . . easy to install . . easy to change-over!

For Gas:—As a Gas Winter Air Conditioner, *complete* unit (in two sizes) approved by A G A for all types of gas, including LP, and for installation anywhere in the United States; from Atlantic City to Denver, at sealevel or a mile high.

For Oil:—As an Oil Winter Air Conditioner, oil burners for both size furnaces listed with Underwriter Laboratories under CS-75.

Richmond gives you both oil and gas burners, the heart of the heating system, each on a mounting plate for easy, fool-proof installation or quick change-over. Switch from oil to gas (or vice versa) can be made in less than an hour.

By stocking only two furnaces (AS 12 and AS 23) you have four conditioners—saving you up to 50% on your furnace storage and inventory costs—and you are ready for either oil or gas installations. Furnace unit, only 23" wide, is shipped assembled and internally wired in one carton (Weighs less than 395 lbs.). Burner units packed separately.

Because of the easy storage, easy installation and easy change-over, this new Richmond Winter Air Conditioning unit is truly—

A Unit Designed With The *TRADE* In Mind.

FOUR CONDITIONERS—TWO FURNACES

AS 12: Output-Gas: 72,000 Btu. Oil: 75,000 Btu.
AS 23: Output-Gas: 92,000 Btu. Oil: 105,000 Btu.
Whiter-white Richmond Enameled steel jacket—23" wide x 47" deep.
Steel base and channels—no "grouting" needed.
***Furnace unit illustrated: #AS 23.**

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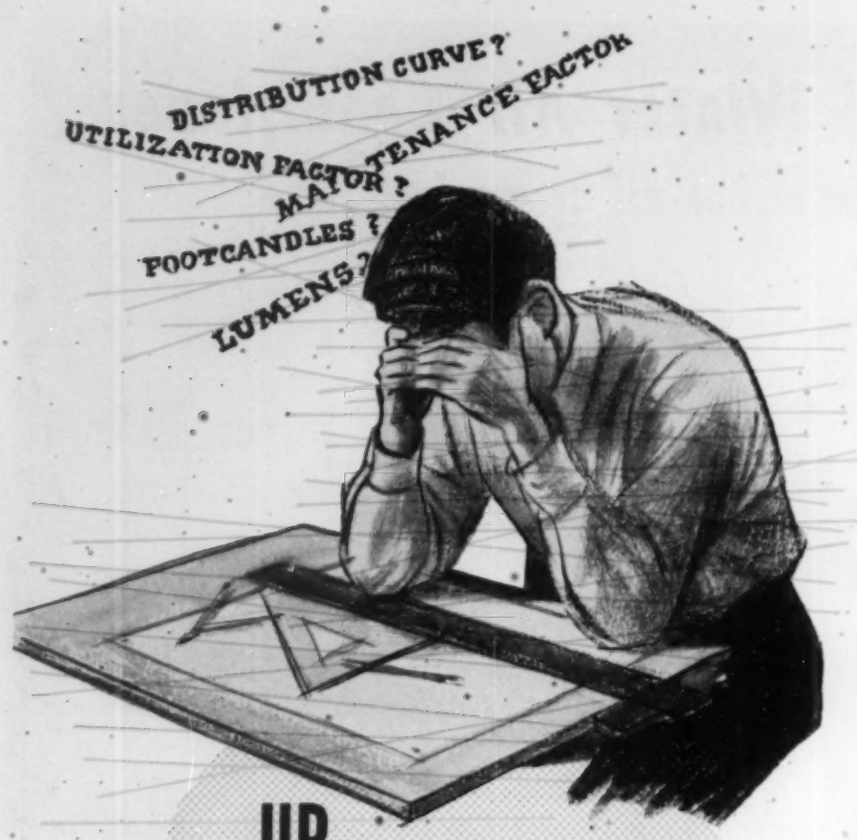

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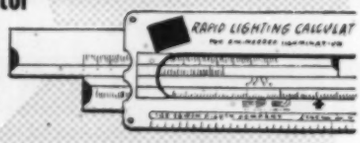
—this ingenious GUTH Lighting Calculator will save you days of complex computations!



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648

THE RECORD REPORTS

(*Continued from page 16*)

and A.S.T.M. Committee Week, Hotel Edgewater Beach, Chicago.

March 29–April 1: 3rd National Lighting Exposition, Chicago.

COMPETITION ANNOUNCED

Applications for the annual LeBrun Traveling Scholarship competition offered by the New York Chapter, A.I.A., are now being accepted. Applicants must be U. S. citizens, not under 23 or over 33 years of age, and must have had at least a year and a half of active practice as an architect or architectural draftsman. Each applicant must be nominated before January 21st by a member of the A.I.A.

The winning entrant will receive an award of $2800 which must be used for a trip outside the continental limits of the United States for at least six months. Requests for further information should be addressed to: LeBrun Scholarship Committee, New York Chapter, American Institute of Architects, 115 E. 40th St., New York 16, N. Y.

NEWS FROM ABROAD

Square for Le Havre

From France comes news of "the greatest square thus far constructed in Europe in the 20th Century" — the new Hotel de Ville Square in Le Havre. It will replace the old square, now a littered mass of stones in the center of the city's devastated area.

The new square will be 284 by 244

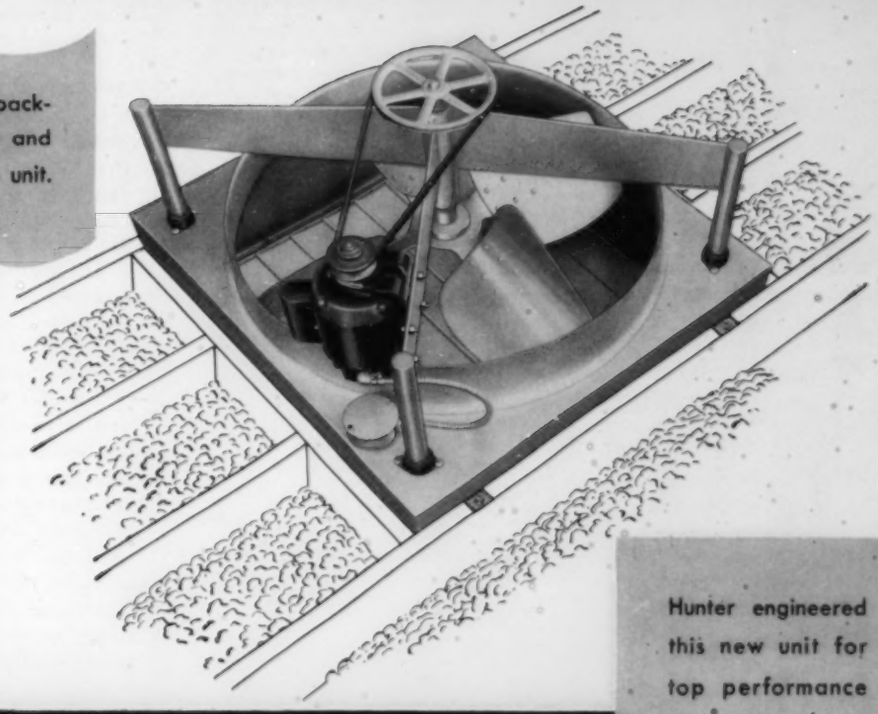
(*Continued on page 20*)

WILLIAM G. KAELBER

William G. Kaelber, vice president of the National Council of Architectural Registration Boards and senior member of the firm of Kaelber & Waasdorp, Architects, Rochester, N. Y., died of a heart ailment on November 21. He was 62.

Mr. Kaelber, a native of Rochester, was well known for his work in the college field. Among the buildings he designed are the School of Medicine and Dentistry and the Men's College of the University of Rochester, the Eastman School of Music, and the Meharry Medical College of Nashville, Tenn. He began his architectural career in 1902 as a draftsman in the offices of Gordon & Madden, becoming a junior partner of that firm in 1908. A member of the Architectural League of New York, he was vice president of the New York State Association of Architects and a member of the New York State Housing Commission.

Hunter's *NEW* Package Attic Fan is designed for low-cost installation


It's a complete package! Fan, motor and shutter all in one unit.
Hunter engineered this new unit for top performance and easy, inexpensive installation.

Plan your homes for year-round comfort

■ The *complete* homes of today require provision for cool comfort on hot summer nights.

The new Hunter Package Fan is the most economical of all home-cooling methods. Compact and specifically designed for easy installation, it overcomes the expensive complications of ordinary attic fans.

Superior mechanical construction insures long-time operation with minimum attention, an investment in comfort that repays its owners many times through sweltering summers. It's a low-cost luxury for modern homes.

Dependable performance is backed by Hunter's 63-year experience in designing and manufacturing fans, exclusively. For summertime comfort that makes homes complete, specify the Hunter Package Fan.

See our section in Sweet's Files, and mail the coupon below for complete architectural data.

New **HUNTER PACKAGE ATTIC FAN**

Manufactured by

HUNTER FAN & VENTILATING CO., INC., MEMPHIS, TENN.

Exclusive Fan Makers Since 1886

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Send complete information on your new Package Attic Fan.

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Wiley Fluorescent Fixtures provide custom-made results both in lighting requirements and flexibility of arrangement to fit any architectural plan *without* custom-made costs.

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● Individual or continuous runs provide flexibility of arrangement to fit any ceiling light pattern desired.

Recessed, flush-to-ceiling, or suspended models with louvers or Alba-Lite glass. The new Flur-O-Guide curved lens are available in recessed Troffers. Models to suit any light requirement and decorative motif.

Fluorescent Models are available with 2, 3 or 4-lamp starter or instant start (H. P. F.) and Slimline Models with 2, 4 or 6 lamps in various lengths and milliampere capacities, to permit greater or less light output as required in particular locations—*without change* of fixture style.

Wiley originated the E-Z Servicer feature that permits one man, without tools, to clean and replace lamps in a matter of minutes.

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THE RECORD REPORTS

(*Continued from page 18*)

meters in size — almost as large as the Place de la Concorde in Paris (360 by 250 m.), and larger than the Place de l'Etoile, the Place Vendome and the Place de l'Opéra. It will comprise spacious gardens, a road paved with flagstones, and children's playgrounds.

Housing in Britain

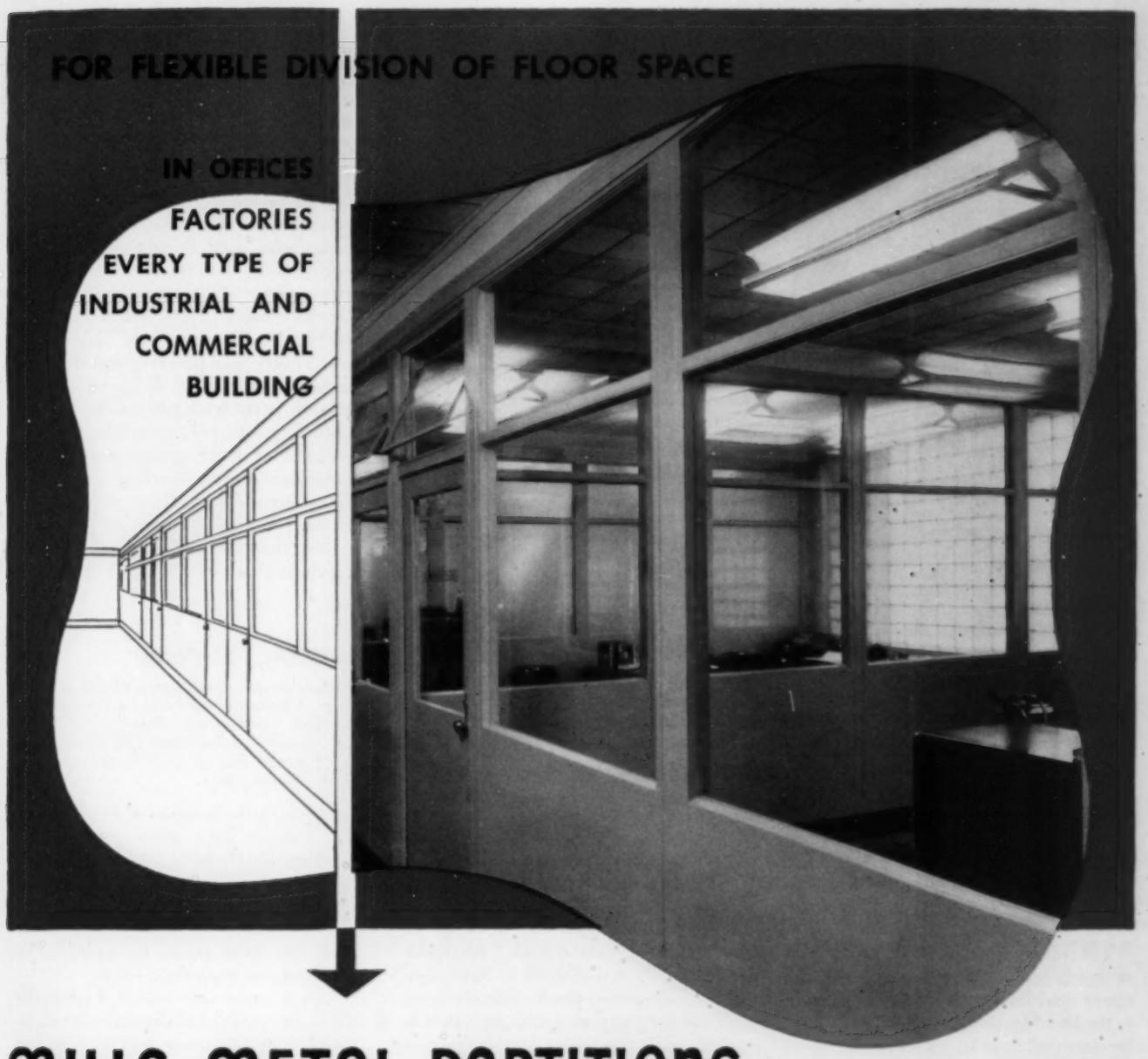
In a recent speech, Aneurin Bevan, Britain's Minister of Health, announced that the total number of homes completed or repaired since the war had reached the figure of 750,000 first set by the Coalition Government.

The London County Council has announced plans for a 3883-dwelling housing project catering to higher as well as lower income groups, to be built at St. Paul's Cray in Kent, 12 miles southeast of London. Plans call for 72 detached and semi-detached 4-bedroom houses for members of the professional and managerial classes; rents will be approximately $12 a week. Dentists, doctors and managers of local industries will be given first choice of tenancies. The 570-acre site will also contain 3-story apartment blocks, five modern schools, churches, shops, movies, parks and playgrounds. Total cost of the development is expected to be about $20 million.

The first of about 3000 new houses to be built on the site of the new town of Aycliffe, County Durham, is ready for occupation despite the shortage of materials which is hindering the development of the town. As the first stage in the plan, 350 houses are to be erected. Of these, 41 will be prefabricated bungalows. Others will include Swiss-designed apartments and various kinds of traditional houses. The town is being built primarily for workers on the nearby Aycliffe trading estate; plans call for a town of about 10,000 people, divided into five wards, each of which will have its own shopping center for everyday needs. The main shopping center will be located in the center of the town near the town hall, the theater, and civic buildings. Each ward shopping center will have a nursery school where mothers may leave their children while they shop.

Aycliffe is one of 10 new towns being planned for Britain, six of them to be situated within a 60-mile radius of London. The sites have been chosen with consideration of such matters as the size of the area; accessibility of road and rail communications; availability of water, gas and electricity; and the claims of agriculture. Nearly all will be extensions of existing small towns.

(*News continued on page 138*)



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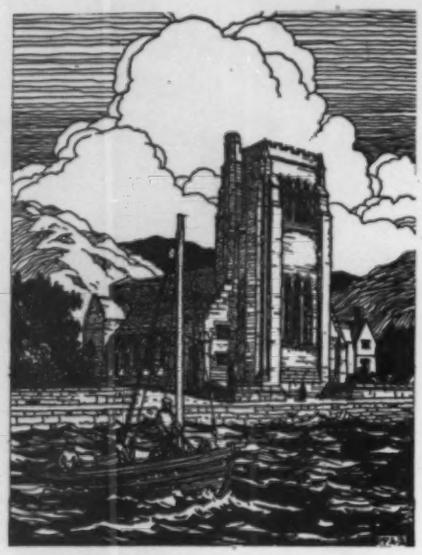


Drawing by Peter Anson of St. Columba's Cathedral, Oban, Scotland. From "Churches: Their Plan and Furnishing"

CHURCHES FOR CHURCHMEN

Churches: Their Plan and Furnishing. By Peter F. Anson. The Bruce Publishing Co. (540 N. Milwaukee St., Milwaukee 1, Wis.), 1948. 6½ by 9½ in. xx + 242 pp., illus. $6.50.

The object of this book, states the author in his foreword, "is to provide the clergy and laity with a practical guide to the building and remodeling of Catholic churches, and to give a summary of the laws governing their planning and furnishing."

It is hard to imagine an author better qualified for the writing of such a guide. Peter Anson studied art and architecture as a young man; he spent 14 years as a member of a monastic community where he was thoroughly trained in the liturgy and traditions of the Roman Catholic Church; he has traveled widely, visiting and sketching churches throughout Great Britain and Ireland, France, Belgium, Holland and Italy. "Again and again," he says, "I have realized that a particular church was a 'bad' church just because it was inconvenient to worship in. Like so many modern private houses these 'Houses of God' looked attractive enough inside and out. They may have been 'devotional,' but they were certainly not 'liturgical'. . . ."

An architect, says Mr. Anson, must understand the functional nature of the different parts of the building before he can design a church; he must study the "clear and definite rules which have been drawn up by Canon Law during past centuries, and which have been modified from time to time as occasion has arisen." The building must be suitable for public worship according to canonical requirements.

Because it is not too easy for the layman to put his hands on those "clear and definite rules," the church architect will find Mr. Anson's book a treasure-house of essential and helpful information. There is little here about "style" and nothing at all about "facilities" and "services." Mr. Anson is not much concerned with such matters. But he has illustrated the volume generously with his own sketches of churches, chancels, altars, pulpits, etc., and has included a number of plans which the architect will find well worth studying.

Here is a description of the various types of ecclesiastical building, of the rules governing the building and the dedication of churches, of the sacred vessels, the vestments and ceremonial accessories. Six chapters are devoted to the altar, its canopy, crucifix, lights, furniture, and so on. Other chapters deal with the sanctuary, the font and baptistery, the porch and main entrance, the pulpit, confessionals, seating, heating and lighting, ventilation. There is even a detailed description of the laws governing the design of a chapel for communities of strictly enclosed nuns.

"This is a practical book," comments the Rev. H. A. Reinhold of Sunnyside, Wash., who edited the American edition. "It will help any man who feels that he agrees with the tenets of the liturgical movement, but cannot find a down-to-earth application of its lofty principles. Especially the parish priest and the architect who cannot go to the expensive places that 'make the right things well' will welcome this book as a good friend for those who have to make small means do."

Mr. Reinhold certainly does not exaggerate the value of Mr. Anson's work!

STORES WITH THE "NEW LOOK"

1948 Store Modernization: Clinics and Forums at the 2nd International Store Modernization Show, New York City, July, 1948. Store Modernization Show Inc. (40 E. 49th St., New York 17, N. Y.), 1948. 7 by 8½ in. 182 pp., illus. $5.00.

"The new look in today's stores is, to my mind, due not only to the contemporary design trend, but to the growing concept of the importance that movement or motion has in the store itself. Selling is not a static enterprise."

Thus spoke Morris Lapidus, A.I.A., at the opening clinic at the 1948 Store Modernization Show. His words were to prove something of a keynote for the whole series of clinics: speaker after speaker echoed the same sentiment.

The highly informative and interesting discussions at the five clinics now have been published, illustrated with a selection from the slides, diagrams and photographs used by the speakers in their talks. Each of the clinics covered a basic aspect of store modernization: Store Layout and Traffic; Store Lighting and Color; Displays and Fixturing; Store Fronts; and Planning and Budgeting for Modernization. Each subject has a chapter in the book and a section in the question and answer forum following the main text. Taken together, these panel discussions give an excellent picture of current trends in the store design field, for the panel participants list includes no less than 32 nationally recognized experts in that field.

HOSPITAL PLANNING

Transcript of the Institute on Hospital Planning: A Collection of Lectures Presented by Hospital Construction Authorities. American Hospital Association (18 E. Division St., Chicago 10, Ill.), 1948. 9 by 11 in. vii + 247 pp., illus.

Although the lectures which comprise this volume were given at the First Institute on Hospital Planning, held in Chicago a year ago under the auspices of the American Hospital Association, they were not published until late last summer. The time lapse, however, in no way detracts from their value.

The lectures were intended primarily for the hospital administrator and members of hospital boards, and the book will appeal first of all to that group. Much of the material, however, also will be of interest to the architect concerned with hospital design. There is, for instance, an excellent discussion of site selection, followed by a stimulating few pages devoted to the designing of the hospital to meet the needs of its future medical staff. Both of these were written by doctors. Architect contributions include: "The Shape of the Hospital," by Lewis J. Sarvis; "Allocation of Area to Meet Departmental Needs and Planning to Meet Requirements of Future Expansion," by E. Todd Wheeler; "How the Cost of Construction is Determined," by A. L. Aydelott; "Planning the Surgical Suite to Meet the Needs of Modern Practice in Surgery," by H. Eldridge Hannaford; "Types of Construction," by Laurence P. Johnston, A.I.A.; "New Products and Methods," by Carl A. Erikson, F.A.I.A.

There is scarcely a phase of hospital planning that is not discussed here by an authority well versed in the problems of that particular phase. This is a book

(*Continued on page 30*)

ARCHITECTURAL

RECORD

ART IN OUR TIME

THE theory that the art of any age and place reflects and expresses the temper and tempo of that period and locale is one to which we have long subscribed. And certainly the art of the present can be no exception. To us this is inevitable since the artists are subject to, and are stimulated and influenced by, all the conditions under which they live and work — economic, political, social, intellectual, and shall we say, spiritual.

The architecture of today in America shows the unrest, the discontent with both the past and the immediate present, and the efforts of the *avant garde* to use all that they and science can provide in creating a new, more efficient and more logical environment for living. And it also records the inertia of the general public which is loath to relinquish the nostalgic styles and expresses its desire for security by clothing itself with forms of the past. In a world bewildered, beset with fears, and under constant tension one must expect manifestations in all the arts — music, literature, drama, and the dance, as well as in the graphic and plastic arts.

In all of these one sees the restless striving, the attempts to find creative release or escape along new paths, to find or establish new standards to take the place of the old which seem to be inadequate, or in which faith has been shaken. The nervous desire for change in the hope for the better impels the artist to innovate and experiment, to imaginative expressions in individual forms and techniques, to break from the smugly accepted traditional. And so we have abstract, non-objective, surrealist art with constant variations and mutations. It is not to be wondered then that much that results from such endeavor appear strange and unintelligible to the layman.

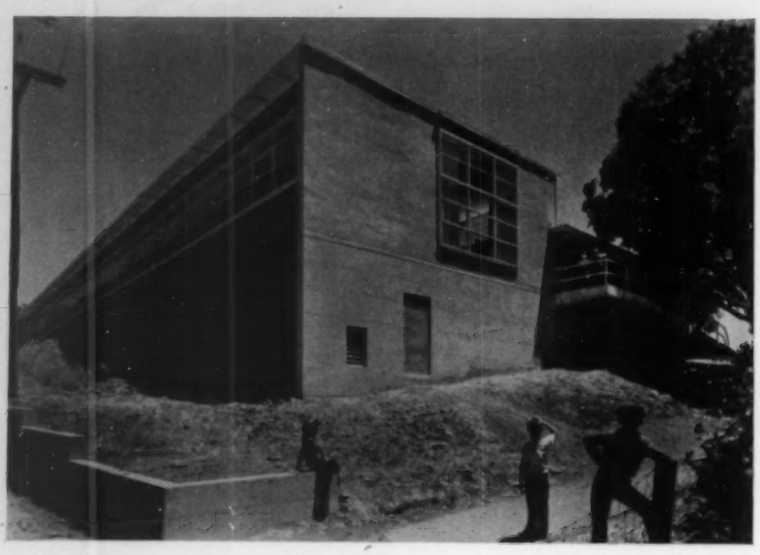
The fact that the current trend in painting, the art most sensitive to change, seems most puzzling to the public (and to some professionals in the other arts) is evinced by the number of current conferences, panel discussions, articles and exhibits designed to inform and explain. Just recently *Life* held and reported a lengthy discussion by art critics and authorities in an attempt to evaluate and elucidate "modern art," but which, to most readers, did little but clarify different points of view without coming to universally acceptable conclusions.

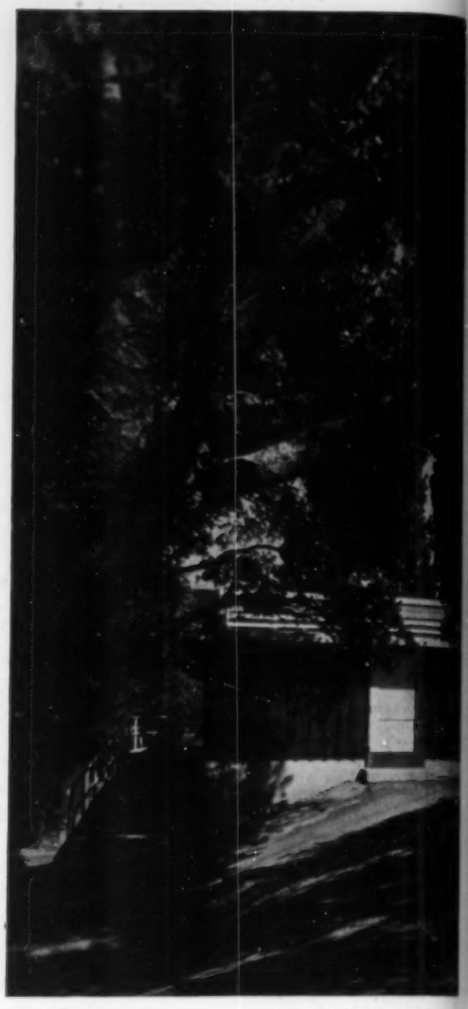
Because painting and architecture are fine arts, subject to similar influences, and both deal with visual components, the similarity or parallelisms in the resulting forms is interesting and provocative of much current discussion (see pages 90–94). The moot question is the significance of the interrelationships between these arts (and between their practitioners) and how far and in what directions these influences will go. It is much too early to be didactic on the subject, but it is imperative that we all attempt to understand the purposes, philosophies and their current expressions, in the various arts which, along with architecture, are now inevitably in a state of flux.

Kenneth K. Stowell

EDITOR

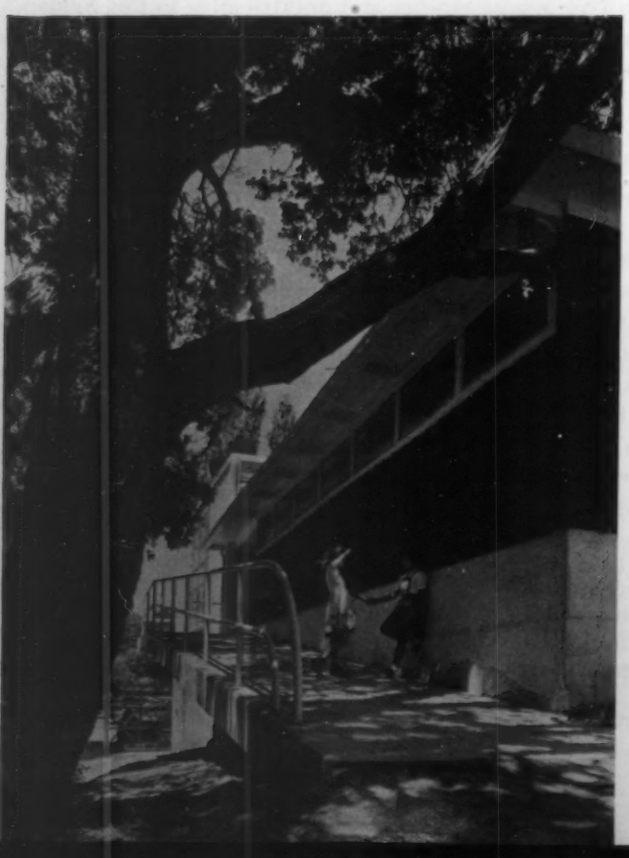
Roger Sturtevant Photos





West view (above) and a close-up of the west end of the school show the rugged terrain which necessitated high retaining walls and a ramp down to the lower level of the primary pupils' play area. The large window (above) belongs to an unusually pleasant teachers' room

A SCHOOL THAT



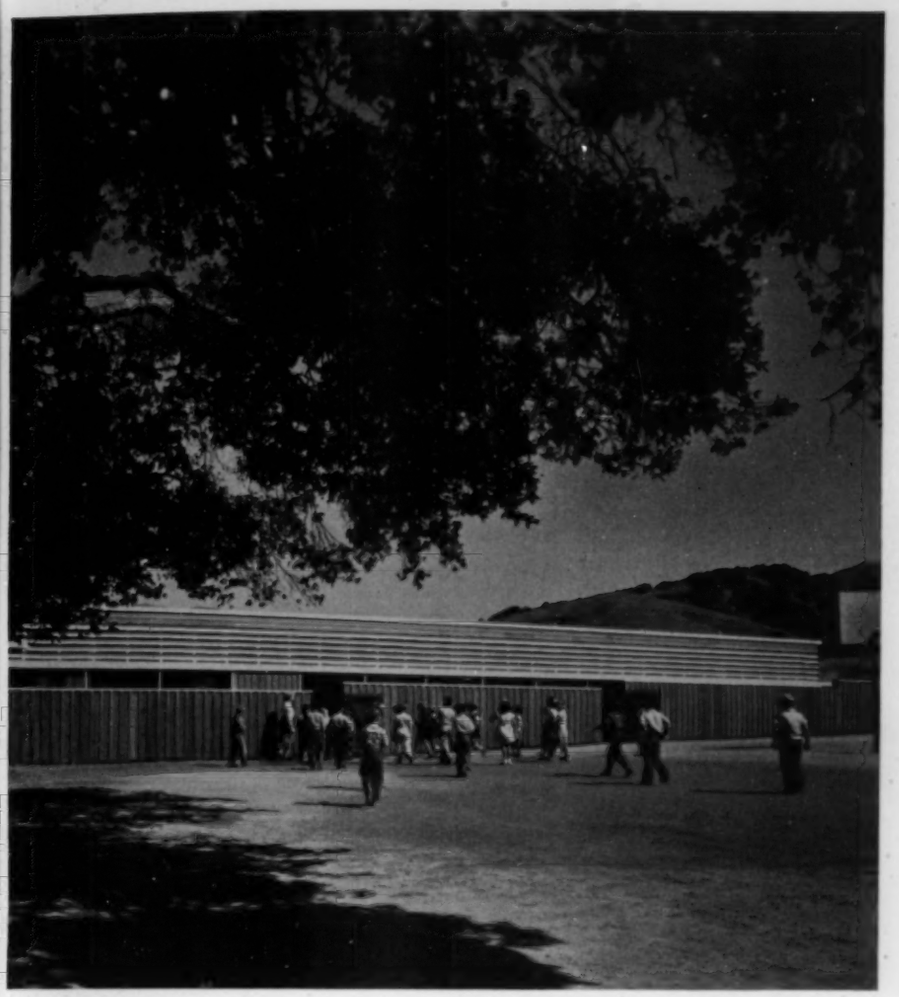
With this, their maiden effort, two well known school men make their bow as an independent firm.* And right away they have made many fresh contributions.

The Fairfax School addition is small in size — only four new rooms (and a teachers' room) added to an existing plant that is obsolete and nearly ready for replacement. But the new job is generous with ideas.

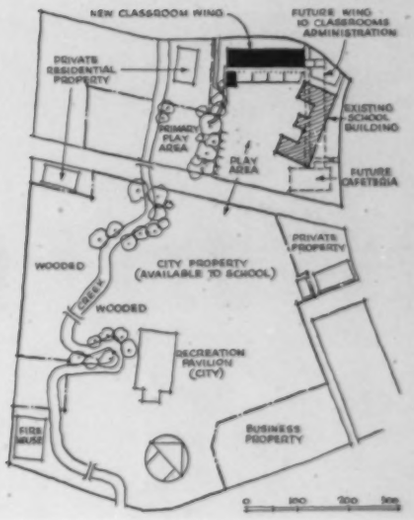
1. Outdoor classrooms are placed along the southern sunny exposure instead of the usual north exposure, which would be shaded by the building.

2. The major daylight source for the bi-laterally lighted classrooms is from the south — yielding a

*In the case of Sidney F. Bamberger, engineer of the firm, it is posthumous. The well-beloved "Sid" died September 18, 1948, at the age of 36, of heart failure, two short years after the firm's founding.



The new addition is shown in black poché on the site plan below. The land drops steeply toward the creek so that, in addition to the level play area seen in the large view there is a play area for primary pupils down lower, requiring grading and ramps. City property to the south of the school is needed for additional recreational areas



ADVANCES BEYOND CURRENT CLICHES

Fairfax Elementary School Addition, Fairfax, Cal., Bamberger and Reid, Architects and Engineers

warmth and color not found exclusively in north light.

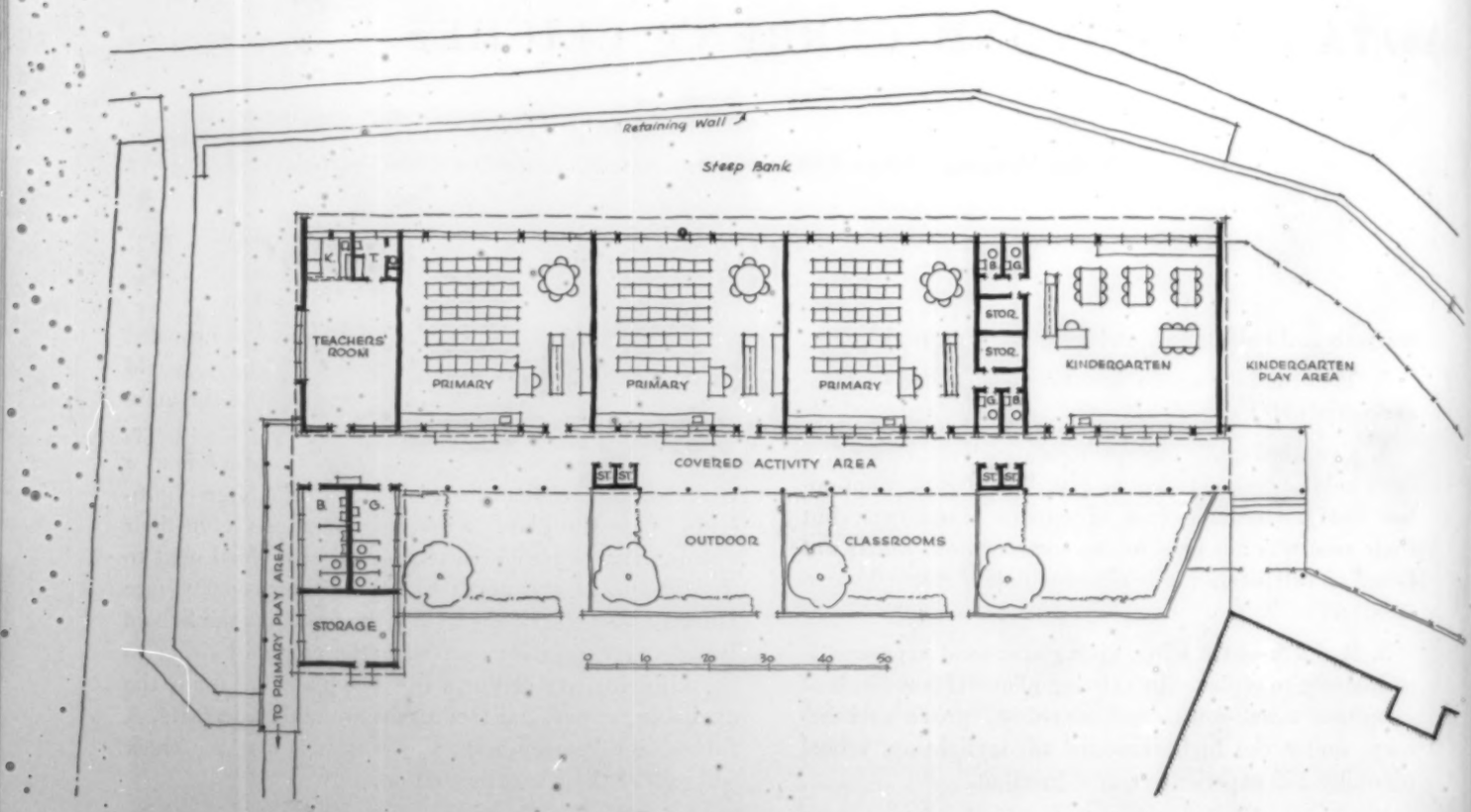
3. The corridor space has been converted from a necessary evil into a direct educational facility.

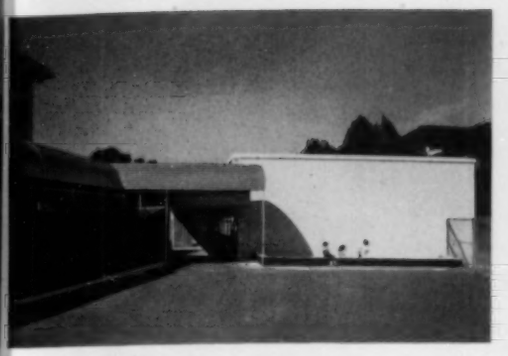
4. Considering the high performance level, costs have been held surprisingly low at $10.74 per sq. ft. (September 1947). (Includes cost of outside classrooms; but their area was not used in the computation, which was based on full interior area plus one-half of covered porch area.)

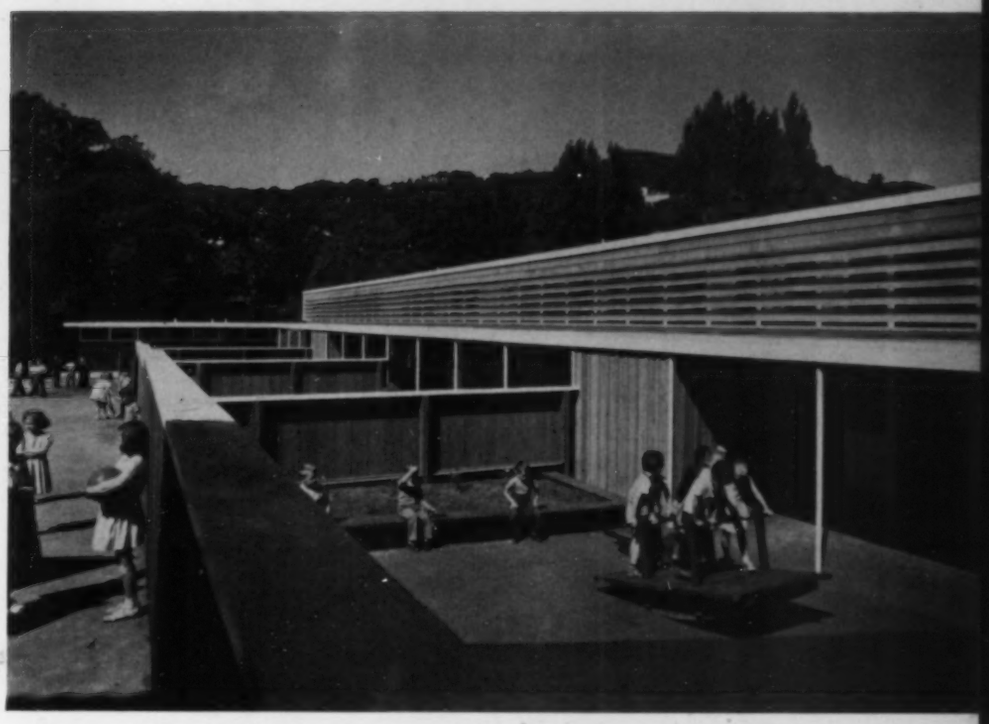
5. A north-south wing, giving east-west exposure, is ultimately to replace the existing plant. If *both* kinds of exposure, north-south *and* east-west, prove satisfactory, under the high standard of daylighting, school planning will experience a new freedom.

On the cramped site, the new building was crowded as close to the north boundary as a steep bank would allow. A ramp, seen at the left (or west) end of the main view, and again close-up in the bottom view across-page, leads to the play area for primary grades which is at a much lower level than the play area in the large photograph. (See site plan.) Kindergarten pupils have their own segregated play area temporarily provided next to their room, at the north corner of the property (see building plan, next page). Only the fact that the School Board entered agreements with the city of Fairfax to use adjoining city property (see site plan) has made the available recreational facilities reasonably adequate. A future kindergarten wing to be built across the creek will relieve the present situation.

Roger Sturtevant Photos

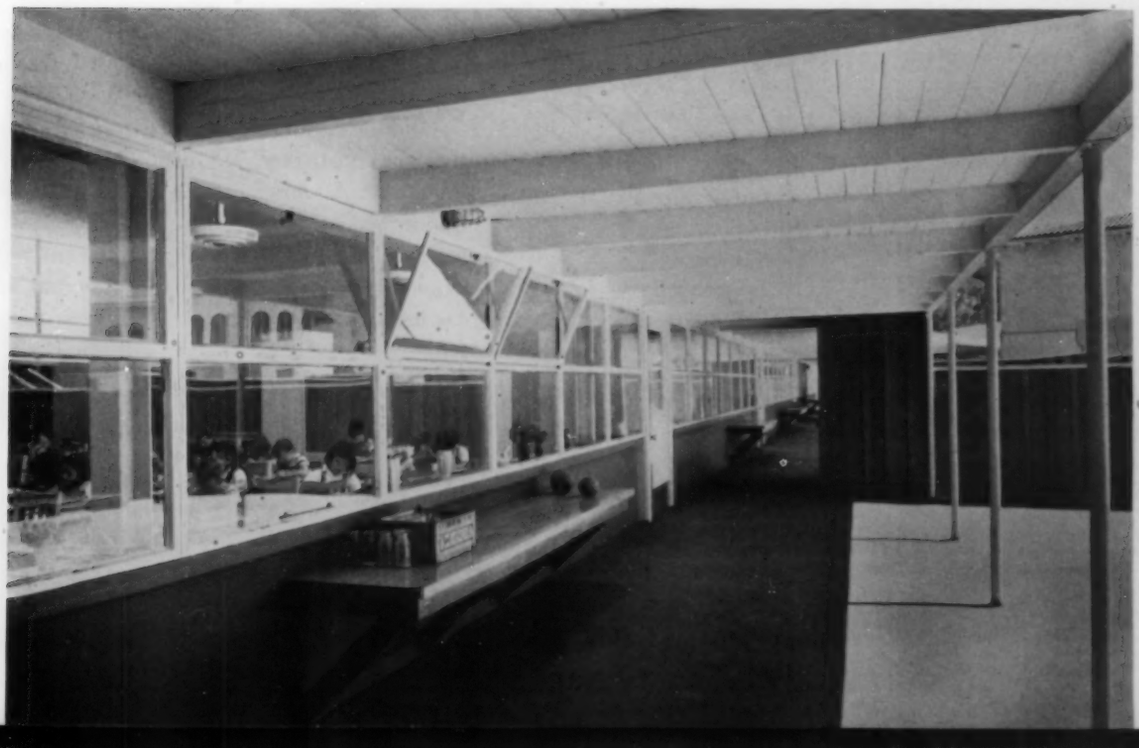


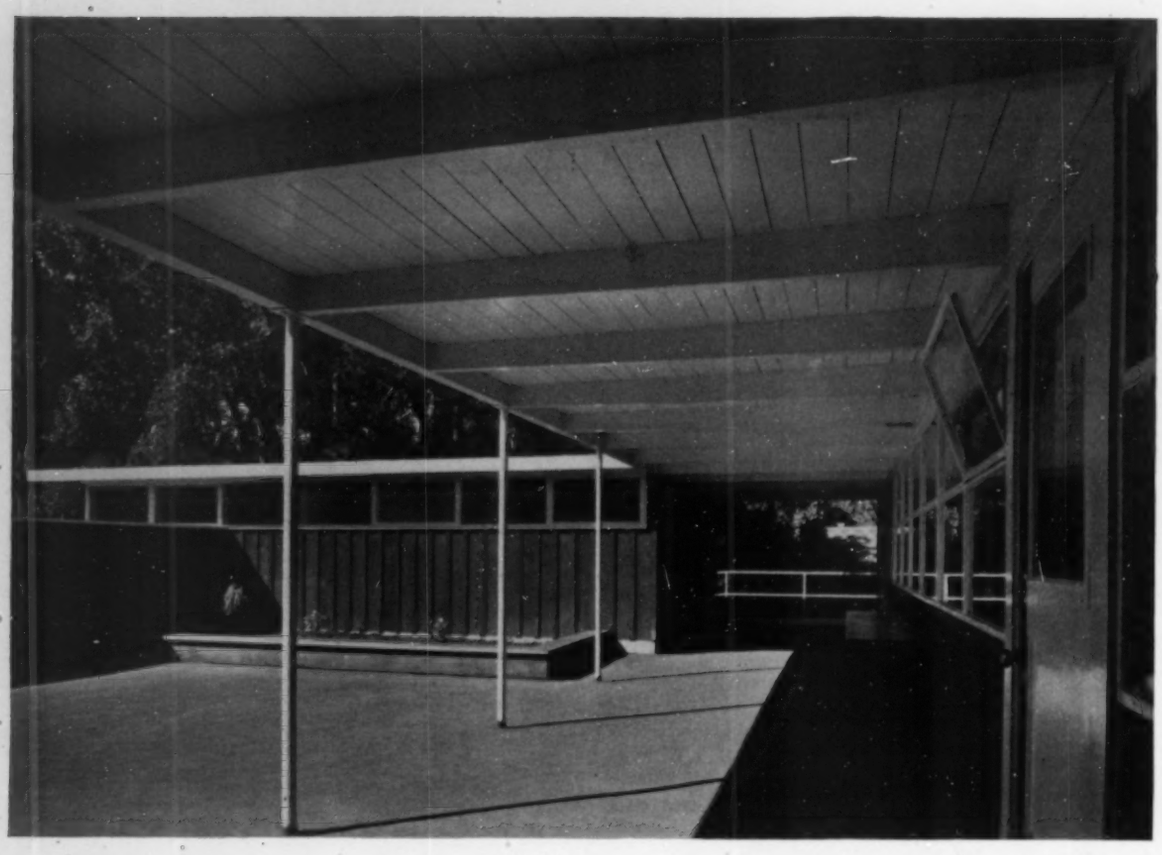




Above, aluminum canopy over arcade makes a handsome transition from old building to new. The louvered clerestory seen in the view to the right is back behind the covered passage and in the same vertical plane as the windows seen in the picture at the bottom of the page

"In Marin County," writes the architect, in his own well known vein, "the climate is cold and damp in winter. So here the typical California practice of locating outdoor classrooms to the north would make them cold, wet, and relatively unusable much of the time. The designers, knowing that exciting new solutions spring from bold decisions, located these outdoor classrooms to the SOUTH! This led to placing the full-height windows (30-in. sill) in the *south* wall. The traditional south corridor now serves a threefold use: it forms a covered activity area, it intercepts direct sunlight and diffuses it for the classroom, and it serves as a passage. Corridor costs represent a considerable fraction of total construction costs — in Fairfax, as a covered activity area, the corridor is an educationally usable addition to the classroom."





Outdoor corridor as seen above doubles as covered outdoor teaching area, also acts as control over south lighting of indoor classrooms. Vista is closed by toilet house. The roofing of this porch is topped off with an aluminum-coated capsheet that reflects additional light into the room through aluminum clerestory louvers seen in view below. The fact that corridors are used heavily only when class is out—and all classes are out simultaneously—might be converted into an opportunity for dual use even in states with worse weather. Note inviting proportions

"Indoor and outdoor areas were intended," the architect goes on to say, "to form a closely integrated teaching space. A work counter is located on the south wall under the windows (see picture at left). Along the counter are provided a work sink and bubbler, storage drawers, trays and shelves, a clay bin and a toy bin. Its location on the south wall, overlooking the outdoor classroom and convenient to it, makes for closer relation of indoor and outdoor work activities. In each outdoor classroom there is a storage cubicle for equipment."

Structurally, the school stands over a 4-in. concrete slab on fill (except over boiler room). Lightweight open-web steel ceiling joists, 4 ft. on centers, are supported at

The left-hand windows of this room are the same that are seen in the view of the corridor-porch across-page. North windows, seen at the right, are raised up 6 ft. above the floor to cut out undesirable view and provide space for blackboards, bulletin boards. Note that bottom window sash has glare-reducing glass to cut down contrast of diffused illumination

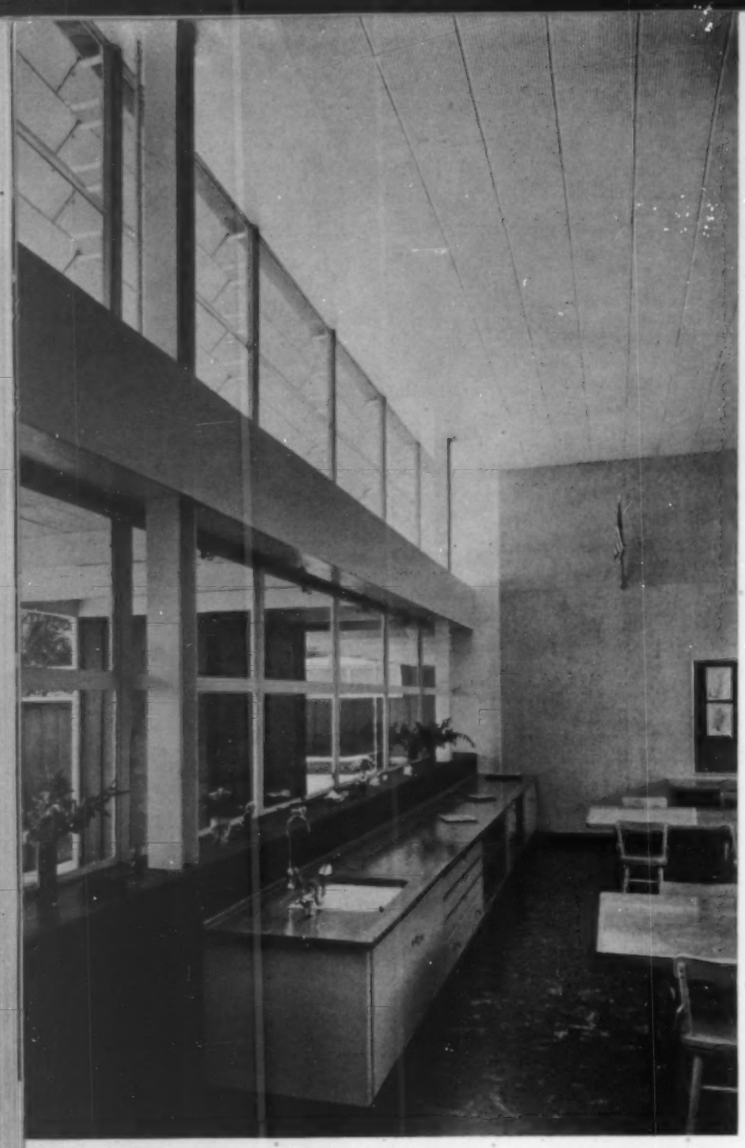
Roger Sturtevant Photos

their ends by longitudinal light beams at the top of north and south walls, supported in turn on 5-in. H-columns 16 ft. on centers. At the south wall the 30-in. concrete bulkhead braces these columns; at the north wall, the 6-ft. high wood stud frame is diagonally sheathed for bracing. All interior walls are nonstructural. (Section, next page.)

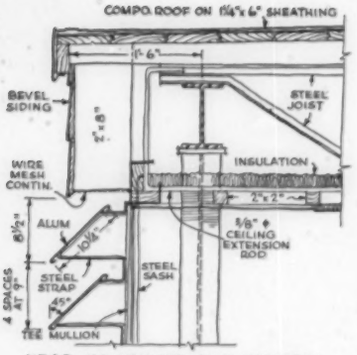
In finish, the ceiling is all lined with acoustical tile; walls are covered with $\frac{3}{8}$-in. Douglas fir plywood; floors with asphalt tile. The exterior of end walls is stucco; exterior siding and fencing are stained redwood. Paving is asphalt concrete with prepared surfacing, integrally red in color.

Heating is radiant panel type, from pipes of soft copper tubing laid in the floor slab; temperature is individually controlled in each room.

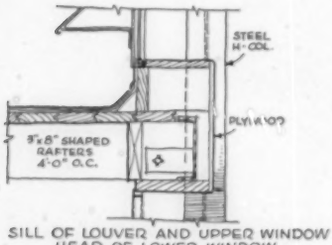
Low costs were sought — and found — not by lowering standards, but by "economy through standardization of dimensions, structural members, and finishes; through lightweight construction and through simplicity in detailing." The figure of $10.74 per sq. ft. includes wiring and conduit for public address system, electric lights, full clock and program-gong system, a considerable development of storage cabinets and work counters, and the extra cost of high foundation walls due to the irregularity of the ground. An accolade is given by the architect to B and R Construction Co. and to William Howard Edie, A.I.A., of the architect's staff.



A close-up view of the southern light-wall is seen here in conjunction with a cross-section of the same wall and a general section showing relationships of classroom, corridor-teaching space, and outdoor classroom. In an exposition necessarily filled with so much technical detail, here seems to be the one opportunity to call attention to the thoughtful elegance and conscientiousness of the entire design as architecture

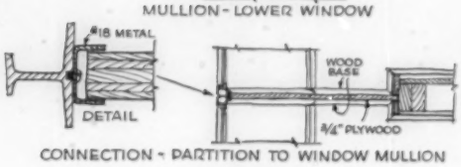


HEAD OF LOUVER AND WINDOW

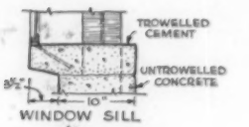


SILL OF LOUVER AND UPPER WINDOW
HEAD OF LOWER WINDOW

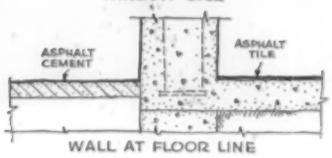
MULLION - LOWER WINDOW



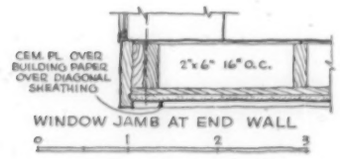
CONNECTION - PARTITION TO WINDOW MULLION



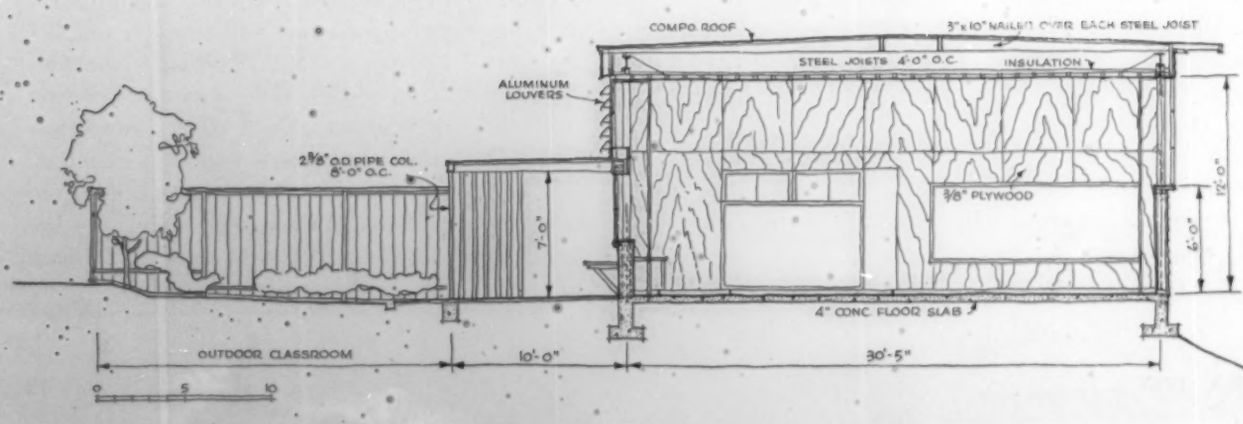
WINDOW SILL



WALL AT FLOOR LINE



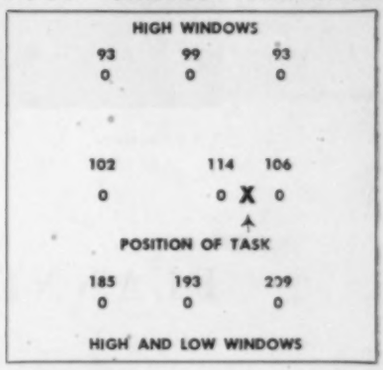
WINDOW JAMB AT END WALL



SPECIFICATION DATA

Construction	Steel Columns, Light Steel Joists
Walls	Frame and Plywood
Acoustic Treatment	Perforated Acoustical Tile Ceilings
Painting	80% Rf. Ceilings, 65% Walls, 14% Floors, 40% Furniture
Floors	Asphalt Tile
Roofs	Aluminum Coated Composition
Insulation	4" Rock Wool in Ceilings
Chalk Boards	Light Green
Heating	Radiant in Floor

FOOT CANDLE READINGS



PLAN OF ROOM N

LIGHTING DATA

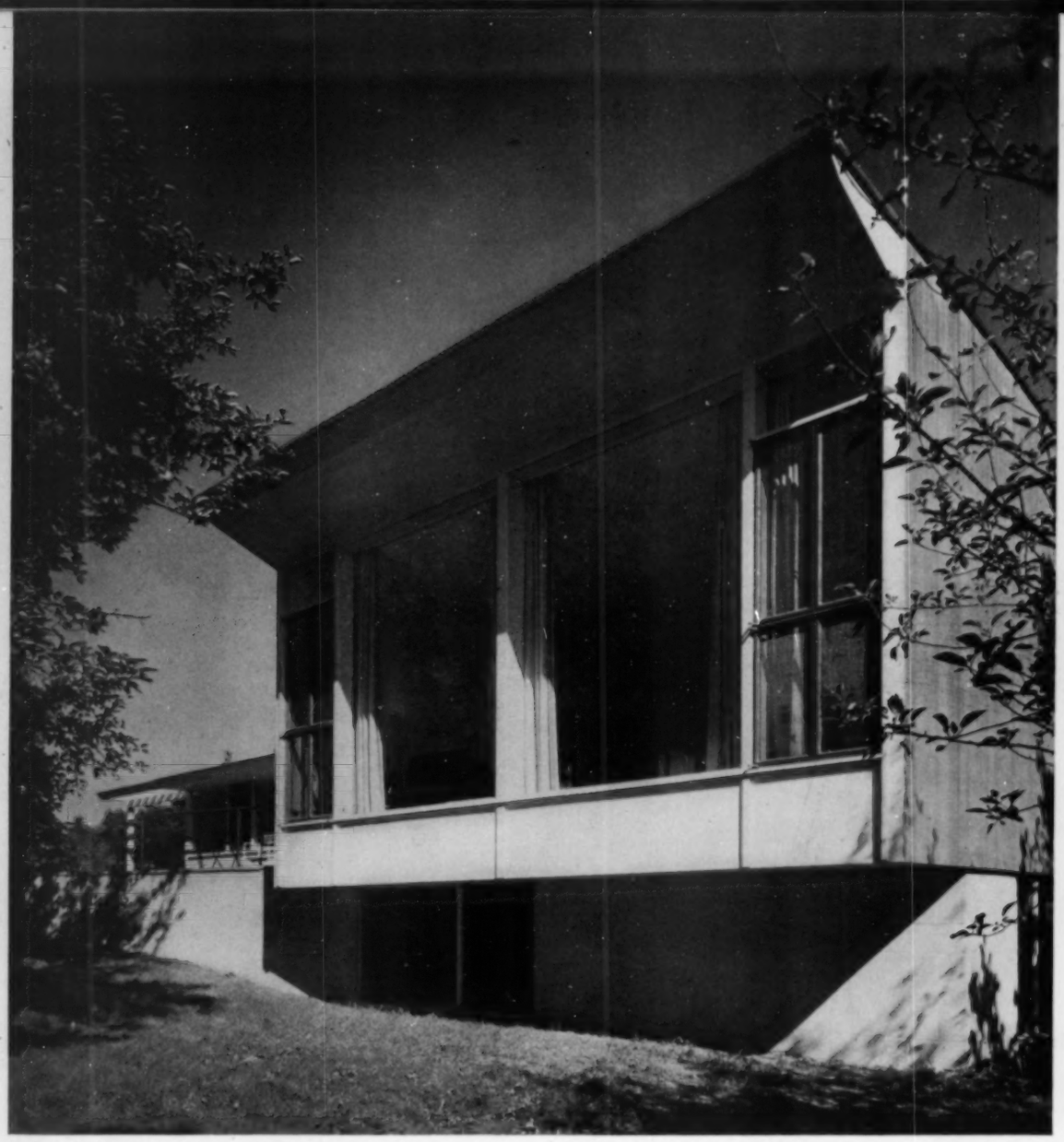
ARTIFICIAL

6 Incandescent, 750 Watts, Concentric Ring Fixtures, Mounting Height Not Given; Intensity 25–35 F.C.

DAYLIGHT BRIGHTNESS READINGS	Foot Lambert Readings	Ratio of Task to Surface
General Weather		
Time of Day		
Assumed Brightness Task	77	—
Desk Top	50	1.5:1
Floor	15	5.1:1
Writing Panel	31	2.5:1
Tackboard	36	2.1:1
Wall	450	1:5.9
Ceiling	150	1:2.0
North Sky	1200	1:15.6
Clerestory Windows	1800	1:23 4

COST DATA

General Construction	$58,657
Heating and Ventilating	5,400
Electrical Work	4,300
Total Cost	$68,357
Square Feet	6,365
Cost per Square Foot	$10.74



Ezra Stoller Photos

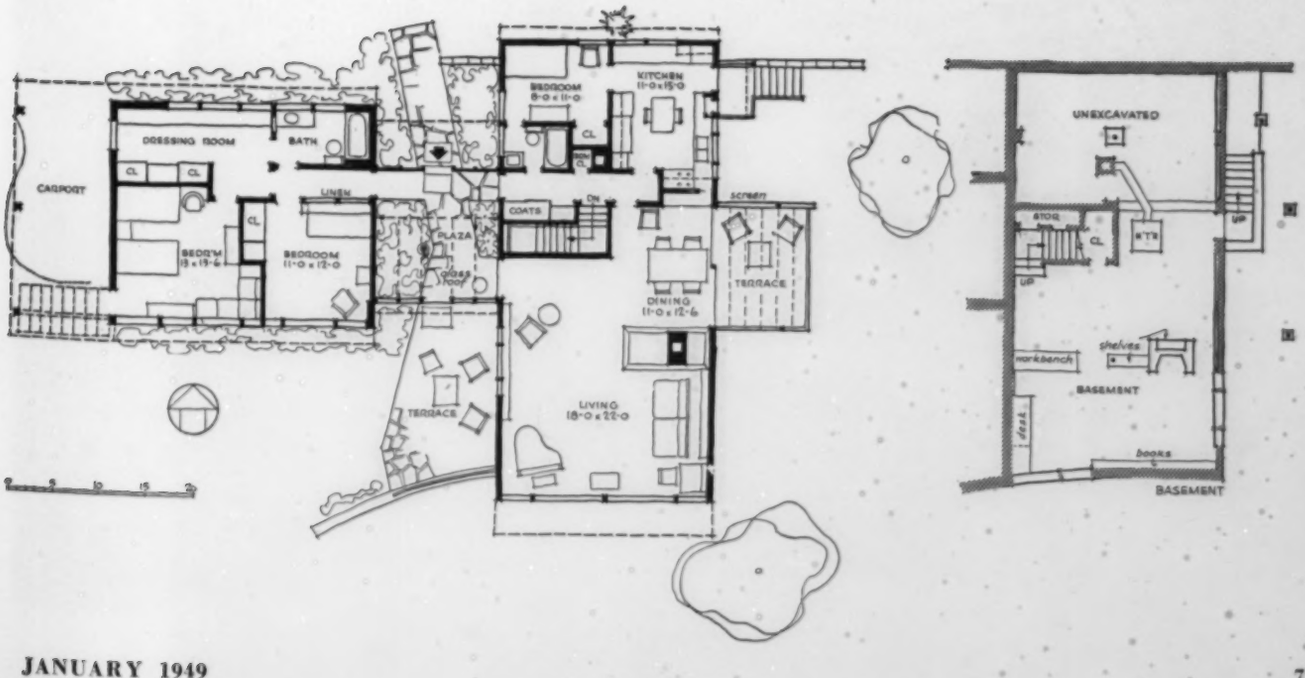
PLANNED FOR A PLEASANTER LIFE

House for Mr. and Mrs. Francis Bitter near Cambridge, Mass.

Carl Koch, Architect, Frederic L. Day, Associate

If proof were needed that ways of both living and architecture have changed vastly — and for the better — in two generations, this new house and the formal, three-story Georgian mansion that stands hard by on the estate of Edward W. Forbes would provide beautiful and typical examples of the contrasts between 1908 and the present.

Social convention only forty years ago dictated many a whopping and elaborate (albeit elegant and suave) "manor house" designed with all the architectural mannerisms of other bygone golden eras. Today the set-pattern and the servants and the lavish hand have perforce largely vanished, and in their stead we have the freedom to design the environment and facilities for the particular way of life of the individual family. So in this house we have the straightforward, thoughtful planning that reflects and serves the owners' individual needs and desires — convenient, cheerful, efficient, informal — but with its own welcome dignity. The understanding logic of its planning and design becomes more and more evident as one analyzes its many interesting and unusual features, for it will bear the closest scrutiny.


CARPORT
DRESSING ROOM
BATH
CL
CL
LINEN
CL
BEDRM
13 x 13-6
BEDROOM
11-0 x 12-0
PLAZA
glass roof
BEDROOM
8-0 x 11-0
KITCHEN
11-0 x 15-0
CL
COATS
DN
screen
TERRACE
DINING
11-0 x 12-6
TERRACE
LIVING
18-0 x 22-0
0 5 10 15 20
UNEXCAVATED
STOR.
CL
FURN
UP
UP
shelves
workbench
BASEMENT
desk
books
BASEMENT

Ezra Stoller Photos

Instead of entering a dark cramped hall or foyer, one is welcomed to the Bitter house through its sunny garden "Plaza" which both joins and separates the living and sleeping areas of the house. A glance at the page opposite will show why the Bitters refer to it as the "Plaza," for the sculptured figure is a small-scale study of the one that graces New York's Plaza; both figures are by Karl Bitter, sculptor, Mr. Bitter's father. Flooded with sunshine which pours through the south wall and the wire-glass skylight, this indoor garden will soon be verdant with flourishing olive and lemon trees, and eventually with camellias. Its flagstone walk is integral with the entrance path and the open terrace beyond to the south (shown below).

When the door is open one can see that the entrance plaza is really an enclosed continuation of the sunny south terrace. From this bright center, one can enter directly the living room or the service hall (with the coat closet and the stair down to Mr. Bitter's study), or the quiet bedroom wing. In too many houses all-on-one-floor, the living room is actually a big and busy corridor. Not so here. The vertical tongue and groove fir wall of the living room is stained with linseed oil and pigment

The dining end of the living room opens wide on a shielded terrace to the east. The counter of the cabinet at the left is level with the counter and range in the kitchen and the sliding panel (shown partially open) is a time-and-step-saving convenience. Plates of black and gold Burmese lacquer from Mrs. Bitter's collection are displayed on the shelves above

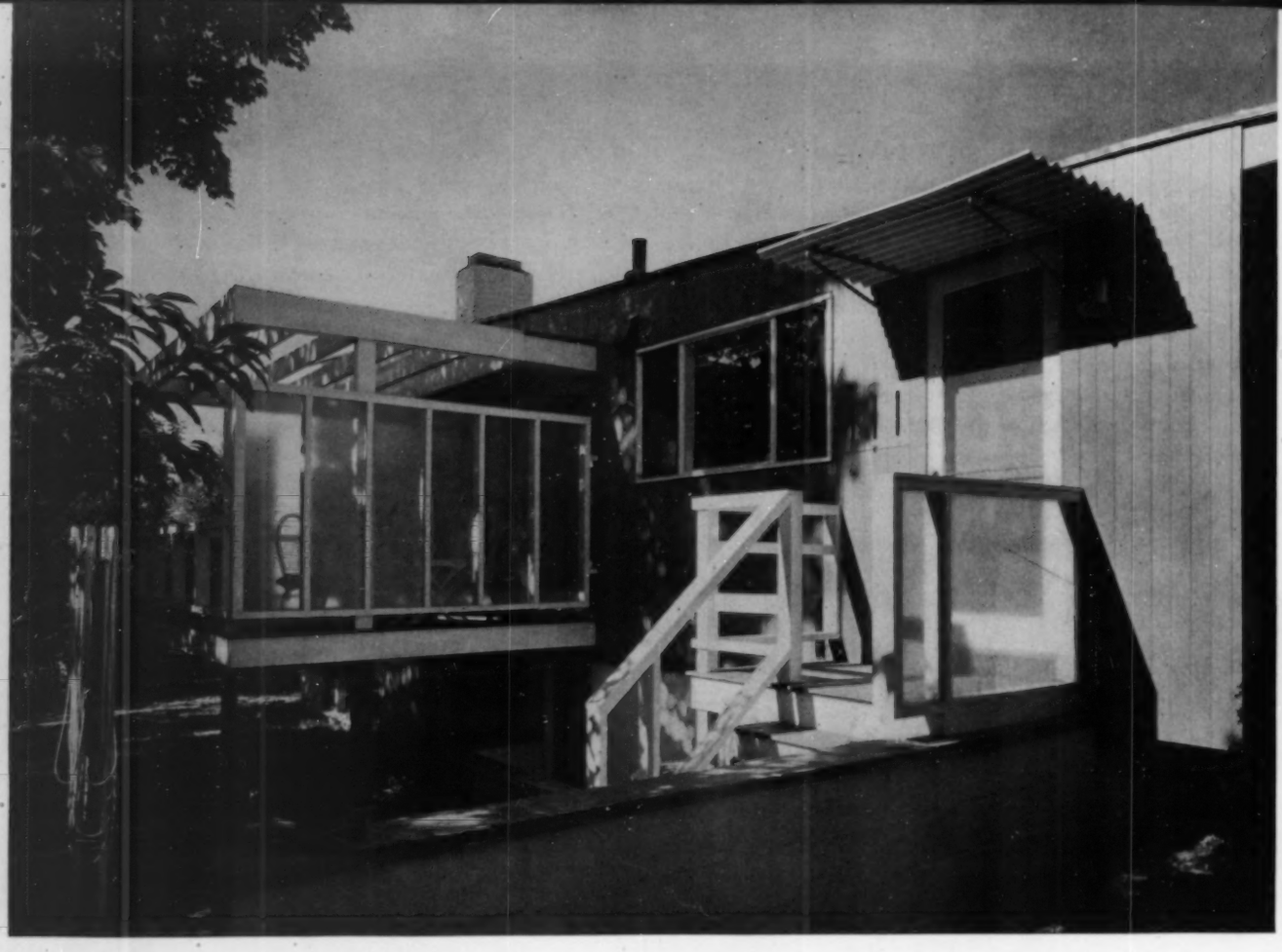
Central feature of the living room is the unusual fireplace open on three sides instead of the usual one; in fact, it was originally planned to be open on all sides with just a suspended hood to control smoke and draft. The hood is constructed on a 1⅛-in. pipe frame with metal lath covered with an insulating cement; the throat is equipped with a rotary-type damper. The chimney carries the flue from the fireplace in the study below

The living room is readily adaptable to entertaining and to intimate musicals, for Mrs. Bitter, author of the book *Thirty Indian Songs*, is an authority on Indian folk music and used to sing under the name of Ratan Davi. The room has remarkably good acoustics and the grand piano is strategically placed at the southwest corner of the room. The land slopes sufficiently to the south to permit large windows in the study-workroom, under the living room, where Mr. Bitter can be in quiet seclusion or enjoy informal discussions with fellow physicists. Here are his workbench and bookshelves.

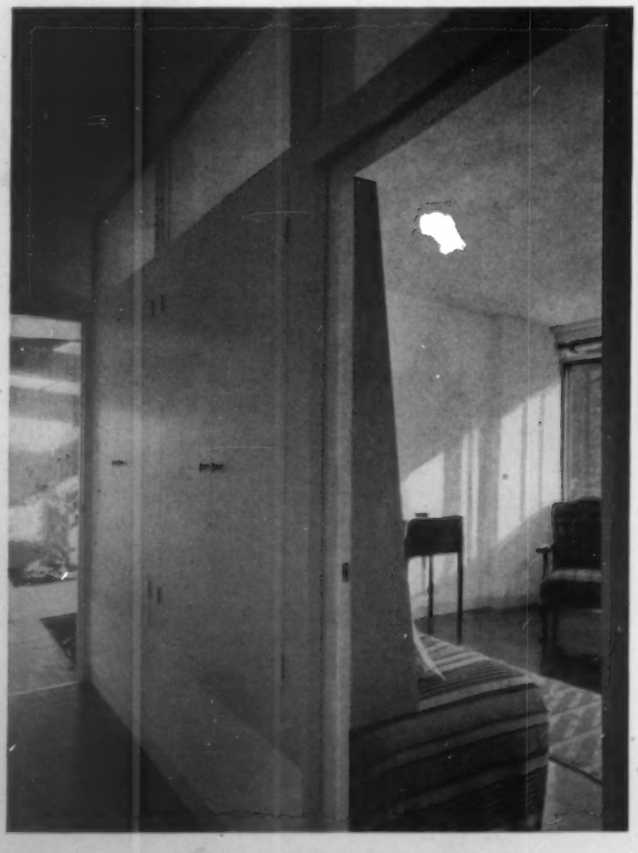
The bedroom wing is designed for quiet privacy and comfort; both bedrooms open to the south, looking out across the grass terrace toward the Charles River. The spacious and conveniently equipped dressing room, complete with wardrobes, shelves, dressing table, drawers and pressing board, is *en suite* with the master bedroom and the bath. The master bedroom, thus unencumbered, is arranged and furnished for rest and relaxation by day or night, as will be seen in the plan.

Ezra Stoller Photos

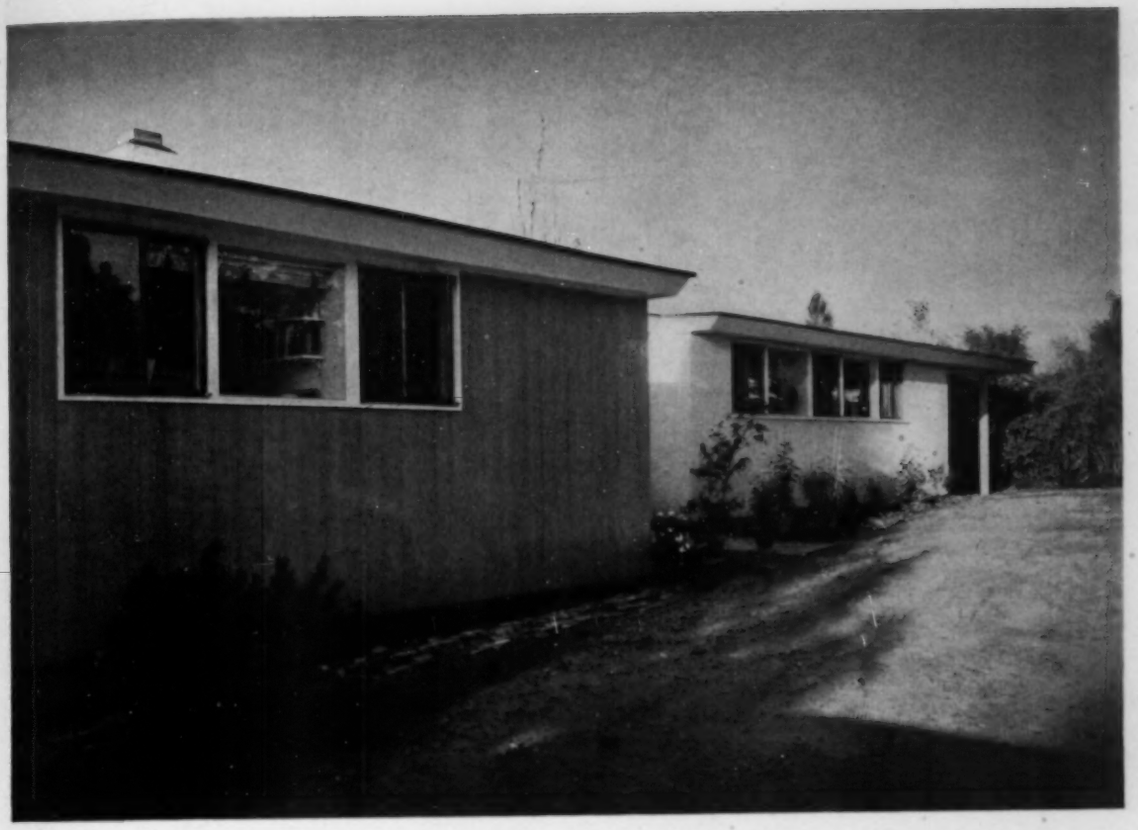
Looking east along the bedroom window-wall toward the paved end of the terrace and the west wall of the living room. The roof extends to form the projection which shields the windows from both rain and summer sun; note similar protecting eyebrow over the south living room window at the far right. The door from the bedroom (extreme left) gives access to the carport via a trellised walk which will someday be an attractive greenhouse



A fine wire mesh screen shields the dining terrace from the service steps and entrance. At the left of the kitchen door is a slotted panel which opens to permit packages to be delivered into a large kitchen cabinet whether anyone is at home or not. The cabinet is seen in the photograph on the opposite page, center, above the counter and at the left of the sink. The main roof slopes down from south to north, one inch to the foot. The kitchen entrance roof is of corrugated transite. Outside entrance to the heater room in the basement is down a flight of steps at the left of the kitchen porch. Exterior concrete blocks are coated with cement paint



An ingenious linen closet is provided opening from the hall and forming the backrest for the bed-couch in the guest room. The bed is pulled out from the wall when its full width is needed. Note the borrowed light over the linen cabinets and door. The bedroom wing is built of 8-in. concrete block furred with 2 by 3's laid flat, then rock lath and plaster



Ezra Stoller Photos

Above, looking west across the north front, service wing in foreground, bedroom wing beyond. Right, east side of the kitchen, package delivery cabinet between door and window, sliding pass door in corner opens to counter in dining area. Below, looking toward the north window of the kitchen. The incinerator door is in the southwest corner (left, not visible). Kitchen floor is linoleum; bedroom floors, rubber tile; living room, oak. Radiant heating is employed throughout the house, the pipes imbedded in the concrete floor of the bedroom wing, and in the ceiling of the living and service wing. Both walls and roof are insulated

WHERE PARKING IS NO PROBLEM

Delman Theater, Dallas, Texas

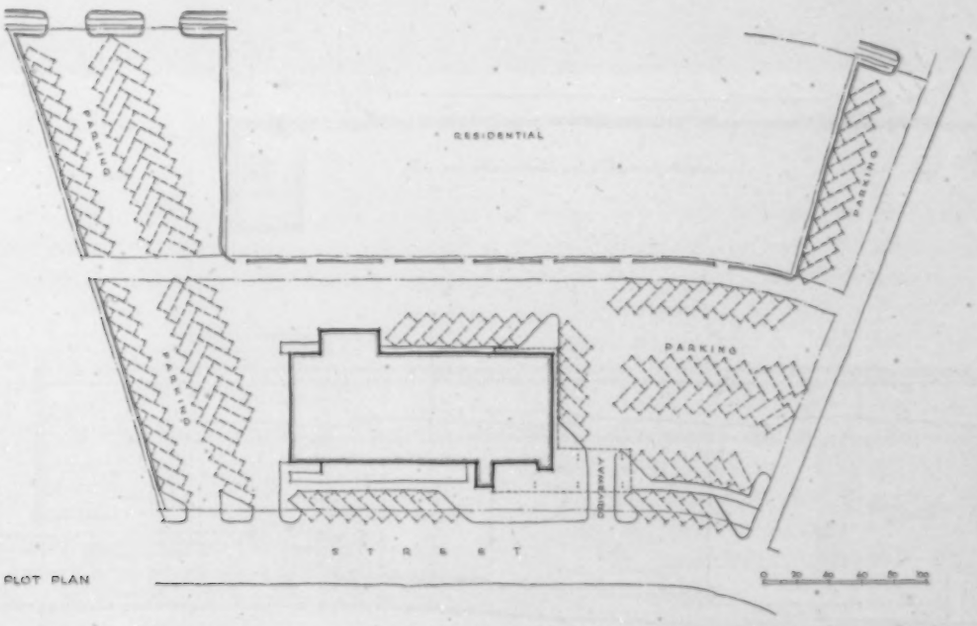
Raymond F. Smith, Architect; A. E. Swank, Jr., Associate

The all-glass front of the lobby adds to its spaciousness and invites the movie-goer. Its curved funnel shape provides both easy uncramped access and natural control. The candy and popcorn counter (an important and profitable operation in a neighborhood movie theater) is an integral part of the lobby design. It is conveniently adjacent to the treasurer's office and it also has adequate storage

The design is noteworthy in that it achieves its attractiveness through its direct use of simple materials, the logical disposition of its functional parts, not least of which is the broad and brightly-lighted canopy which extends out from the lobby and box office. The brick projection at the left of the lobby houses the stair from the balcony and provides a display area as well as offering additional protection to those waiting for their cars

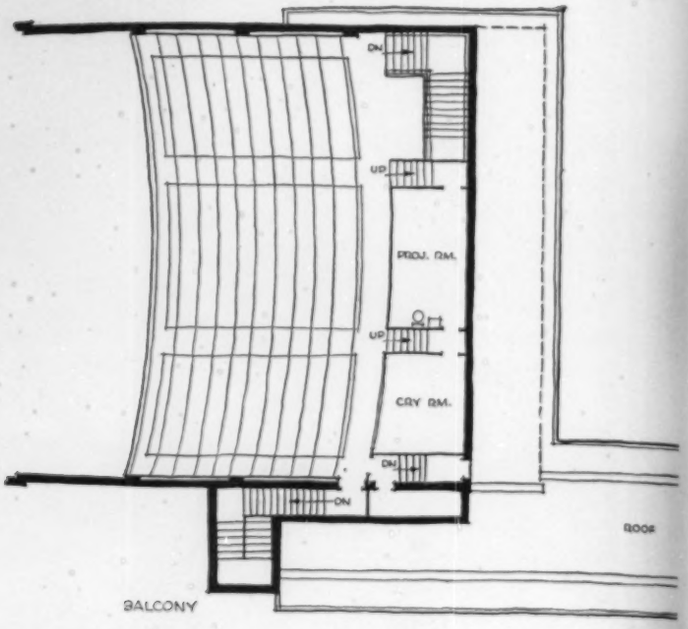
Photo Associates

WHILE the theater is half a block from the main thoroughfare, its signs and brilliantly-lighted canopy in front attract the audience. The site chosen provides parking space for about 143 cars. Although the local zoning ordinance requires only one off-street parking space for each 15 seats, the owner and architects felt that at least one space for each five or six seats should be provided as this takes care of all but peak loads. The broad, bright canopy shelters both the entrance doors and box office, and provides a covered way for those arriving by automobile. The exterior design is clean, uncluttered, and still provides for the large illuminated signs and the necessary frames for the "40 by 60s" — the colored posters which advertise present and coming attractions. The interior is equally simple and efficient. Naturally the theater is air conditioned.

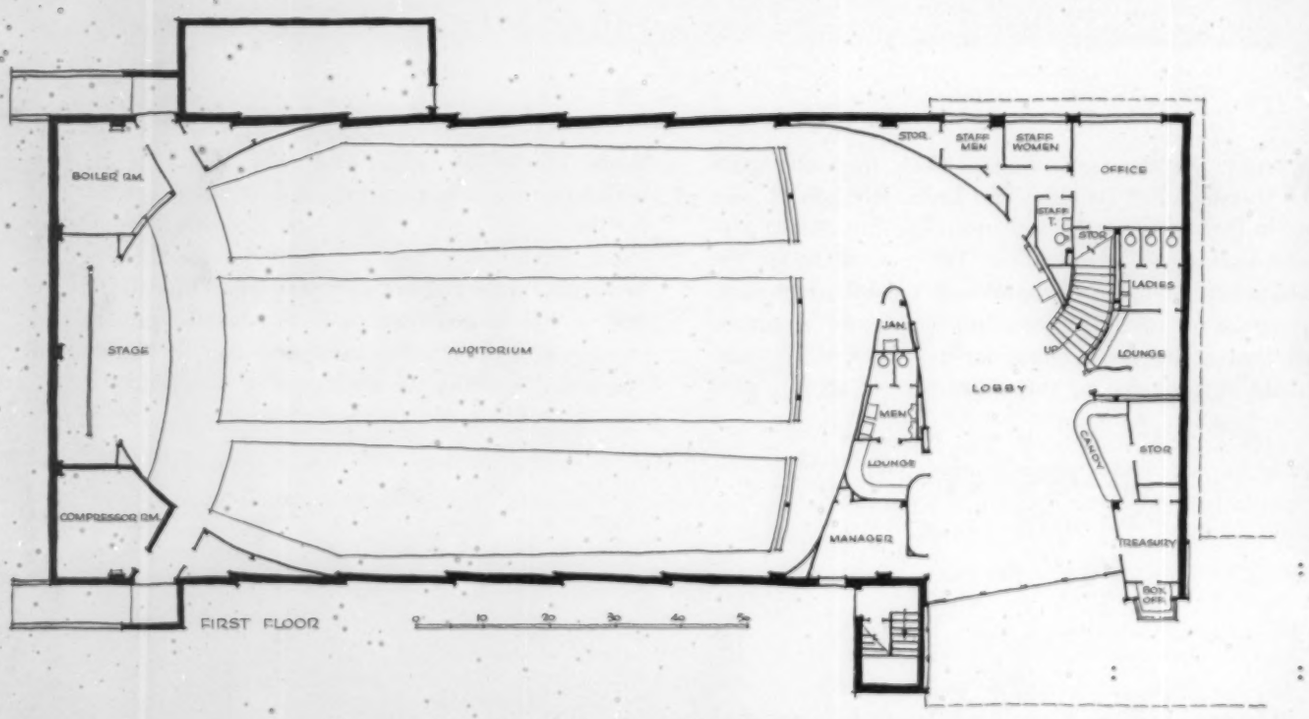


PLOT PLAN

The lobby and stairwell walls, as well as the wainscot of the auditorium, are vertical cypress boards, random width, lapped joints, finished natural. The lobby is lighted indirectly near the entrance, and its ceiling steps down as one approaches the auditorium, the final portion having down lights which give adequate illumination without spilling light into the auditorium



The sound-proof "cry room" with its glass front and with its own speaker permits parents to view the picture while caring for their crying child



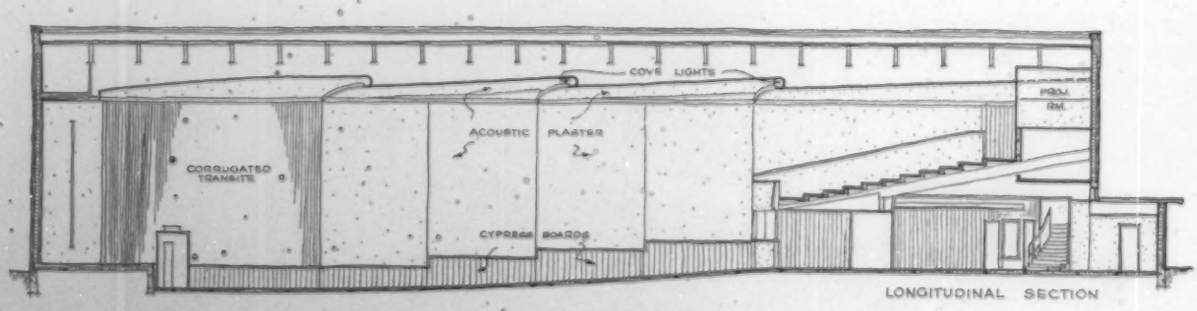
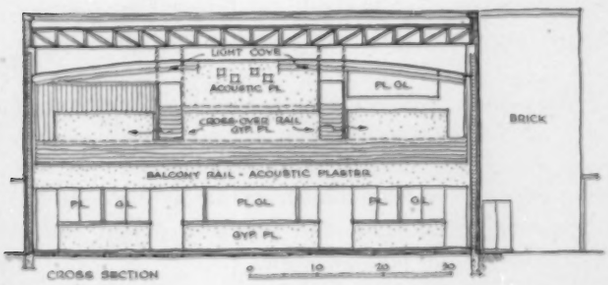
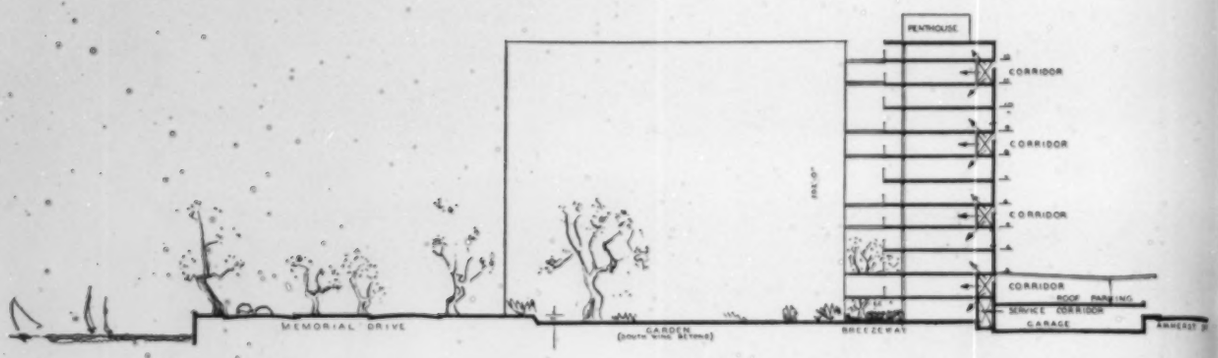


Photo Associates

The auditorium was planned with a maximum number of central seats and with side aisles. The latter provide easier and quicker access to seats, making for less confusion, and they also simplify the problem of maintenance and cleaning. Ceiling lights are in coves, directed away from the audience. The auditorium is simple and unostentatious in design, painted in shades of buff ranging from dark at the stage and at the wainscot to lightest at the balcony and ceiling. The carpet throughout the auditorium and lobby is unpatterned and is of a neutral light grayed brown with a slightly mottled weave which is both attractive and thoroughly practical. The stock roof trusses are of welded steel, 7 ft. 0 in. on centers, cross bridging of 1½ by 1½ by ⅛ in. angles approximately 10 ft. on centers, top chord stayed by the ribbed metal roof deck welded at each truss; estimated loads—live, 30 lb., dead, 20 lb.



AN APARTMENT HOUSE OF FAR-REACHING CONCEPT



Eastgate Apartments, Cambridge, Mass., for Massachusetts Institute of Technology

***by Architects and Engineers for Eastgate Apartments** **

ONCE in a long while a building project sets a new milestone, by carefully executing a fresh conception. Eastgate Apartments, at Cambridge, Mass., for Massachusetts Institute of Technology, are considered by the editors of the RECORD to have this kind of importance. Accordingly the major part of next month's Building Types Study on apartment houses will be devoted to the background thinking and the preliminary analysis that went into Eastgate Apartments.

No mere theoretical project, Eastgate is under way, demolition being nearly completed and construction about to begin. Design studies occupied two years of the best thinking of M.I.T.'s brilliant staff. One kind among many kinds of collaboration is the design collaboration of the experienced Worcester building organization. (Dean William Wurster's favorite dictum is that "the way to get a good job is to give the opportunity to a young man, under the guidance of an older man.") Again, M.I.T. as an institution collaborates with the New England Mutual Life Insurance Company, for whom this is the first venture into housing investment under the changed Massachusetts law, and whose president, George Willard Smith, joined with Dr. James R. Killian, Jr., new president of M.I.T., in making the announcement.

Eastgate is to house M.I.T. faculty families and other professional and related groups, in some 1,000 rooms making up 261 dwelling units, consisting of one, two and three bedroom apartments, in a 12-story building occupying 23 per cent of a site of 2⅓ acres, with 430-ft. frontage on Memorial Drive on the shore of the Charles River.

The basic planning concept, rarely if ever attempted previously, might be described as: —

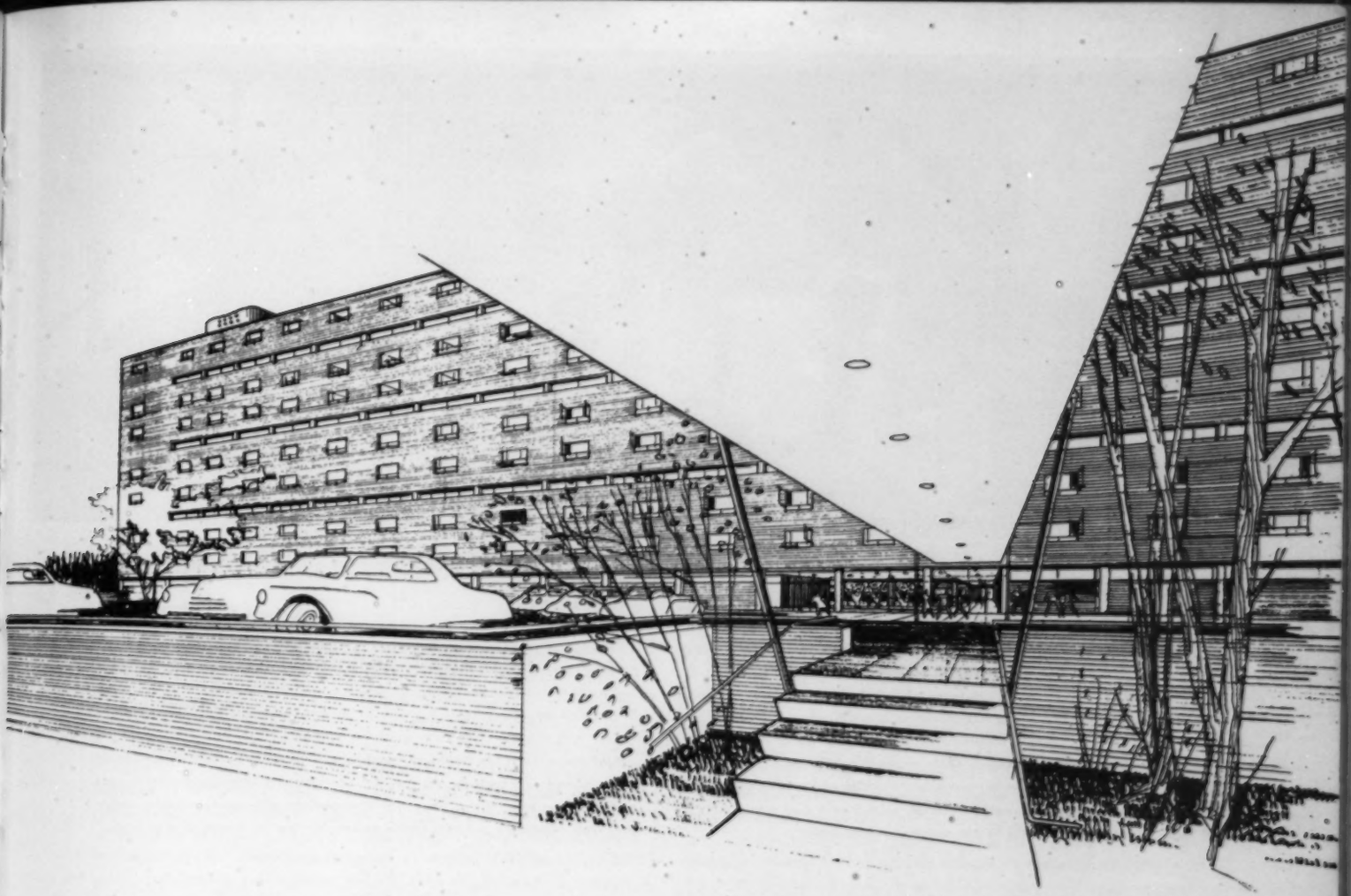
1. A *stack of flats*, rather than apartments. On two of every three floors all apartments go all the way through from exterior wall to exterior wall; and on the third floor, even, there are no across-corridor neighbors. Or you could call it —

2. A *3-floor skip-stop* elevator scheme with corridors every third floor. Occupants of apartments on floors above or below enter a private vestibule off the corridor, climb or descend their private stair (privately maintained) to their own homes.

Either way, rental-area-to-total-area is reported up 5 per cent, while every apartment has river view, balcony, complete through ventilation, extra privacy, living room with long dimension daylighted, kitchen with special equipment, and beautiful design with a multitude of other pleasantnesses.

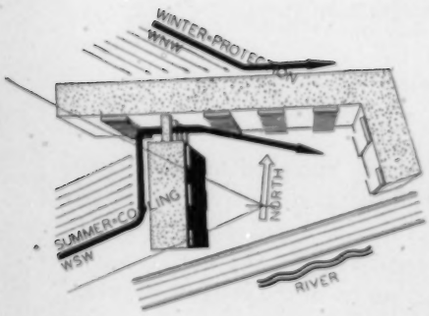
---

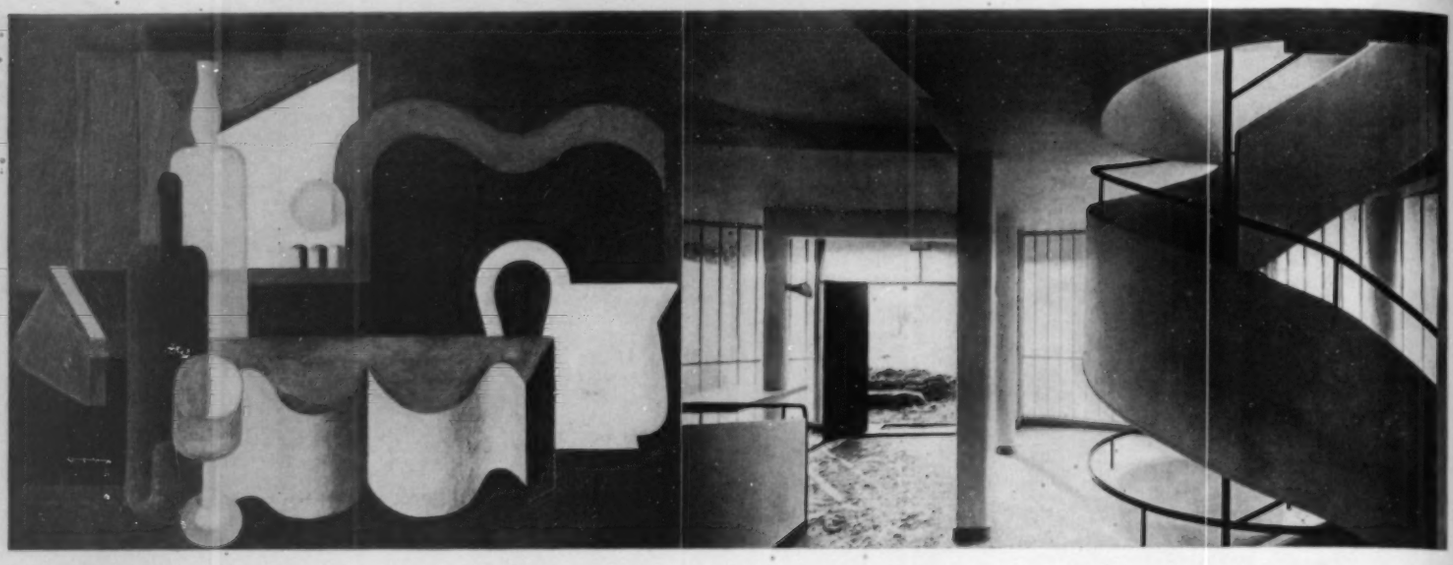
* *Three groups participated. Design was in hands of M.I.T. staff members William Hoskins Brown, architect; Robert Woods Kennedy, architect; Carl Koch, architect; Vernon DeMars, consultant; Ralph Rapson, consultant. Collaborating for the Thomas Worcester, Inc., organization were Thomas Worcester, pres., William Davies, architect, G. Nelson Perry, structural engineer; Charles A. Turner, mechanical engineer; George I. Savage, electrical engineer. For the New England Mutual Housing Board, A. O. Willauer, architectural consultant, and Hamilton Coolidge, assistant architect.*



Ralph Rapson rendering

North view of apartments (above) clearly shows slit windows of corridors every third floor, as seen also in cross-section, opposite page. View of model, from south, or river side, shows balcony at every apartment, while sketch plan explains why every apartment has a river view, and how the separation of the lower F-bar permits through-breezes for summer cooling. Drawings are preliminary only; next month's study will carry full plans and working details





ABSTRACTION, 1922, by Le Corbusier (Pierre Jeanneret)

VESTIBULE, SAVOYE HOUSE, Poissy, France, 1929, by Le Corbusier

". . . The delicate precision of pattern in Le Corbusier's walls and their openings, a quality little associated with ferro-concrete construction previously, is clearly related to the restrained elegance of form in his work as a painter. After the first crude attempts at incorporating unmodified engineering elements, his houses were visually organized with all the perfection of his purist paintings. Their proportions, indeed, were worked out through geometrical devices more closely related to the humanistic theories of Renaissance architects than to the empirical formulas of modern engineers and are identical with those he had used from the first in pictorial compositions.

"There are closer analogies as well. The smooth, flat rendered surfaces of his buildings have the immateriality of the colored shapes in post-cubist painting. And soon the darker colors of his pictures of the mid-20's were introduced in addition to pastel tones in order to contrast certain wall surfaces more boldly with the off-white tone which he considered the natural color of the actual stucco. Even the curves of the objects in the pictures were echoed in his plans in the freely bent shapes used for non-structural screens. Neither in plan nor elevation were his architectural compositions allowed to ramble; rather they are compactly ordered inside rectangles like the frame of a painting."

ARCHITECTURAL DESIGN AND ABSTRACT ART

The recent publication of Henry-Russell Hitchcock's clarifying book, *Painting Toward Architecture,* which is based on the Miller Collection of abstract art, now on exhibit at the Boston Institute of Contemporary Design, points up a new interrelationship of the arts

THE parallel examples of architecture and art seen on these pages suggest a new relationship — easy to note, tricky to analyze.

In the RECORD, during the more conventional twenties, "allied arts" were shown as an *accompaniment* of architecture, enriching the visual form. Here we see painting *paralleling* architecture, sometimes teamed with architecture, as a collateral research in visual form.

As Hitchcock avers, architecture has always been an abstract art; but not until the past century did painters and sculptors become deeply absorbed in abstraction. Driven out of straight illustration by technical inventions, goaded by hints of a more universalized structure beneath appearances, tantalized by the new vision of space opened by science, aware of the insights of primitive art and non-European art, painters and sculptors have gone through an experience that looks to the uninformed layman like an earthquake or explosion. (And they still have to deal with the two standard accusations leveled against explorers — that they are all dealing in

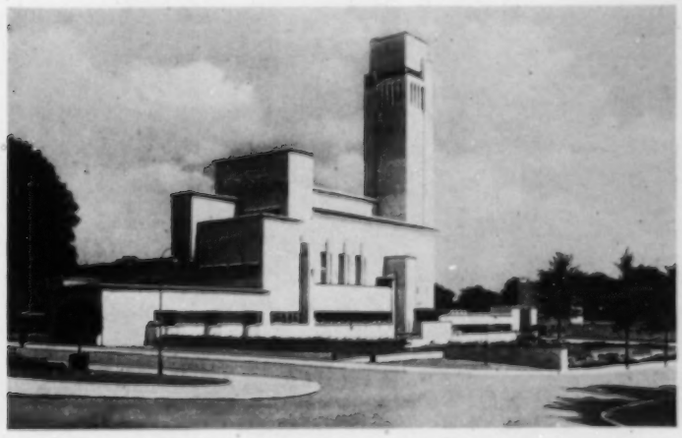
HICKOX HOUSE, Kankakee, Illinois, 1900, by Frank Lloyd Wright

JAPANESE ACTORS, 1805, by Kunisada

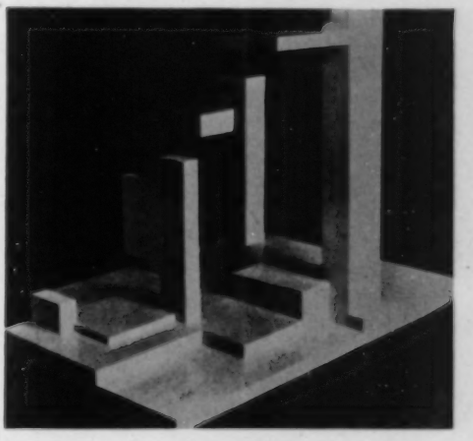
"It remained for Wright to apprehend in the Japanese print—and not as has sometimes been supposed in Japanese buildings—wholly new abstract possibilities for architecture. He saw that the simple geometric elements, so carefully disposed in the Oriental woodcuts, created a compositional interest independent of the subject matter of the prints. . . . But Wright also realized that this sort of abstract or pattern interest was capable of analogous exploitation in architecture. Had he merely imitated or emulated Japanese architecture, his work would have been no different essentially from that of various other architects . . . using simplified and stylized elements drawn from this or that European or non-European architecture of the past. . . . But he also succeeded in making these compositions as coherent and consistent as the geometrical patterns he admired in Japanese prints, but with the added interest of real existence in three dimensions."

BELOW:

"In the earlier postwar years around 1920, the Dutch artist Van Doesburg and the sculptor Vantongerloo, if not perhaps Mondrian, were working more consciously and directly toward architecture than anyone in Paris except Le Corbusier himself. Vantongerloo's curious sculptures of interlocking rectangular forms look at first sight like a cross between Chinese puzzles and precariously balanced piles of brick, . . . in mass and volume more complex than any architect has yet aspired to build. Instead, the influential work of the Dutch architect, Dudok, whose early buildings were quite suggestive of Vantongerloo's sculpture, has improved in quality since its plastic complexity became less willful."



HILVERSUM TOWN HALL, Hilversum, Holland, 1928, by Willem M. Dudok



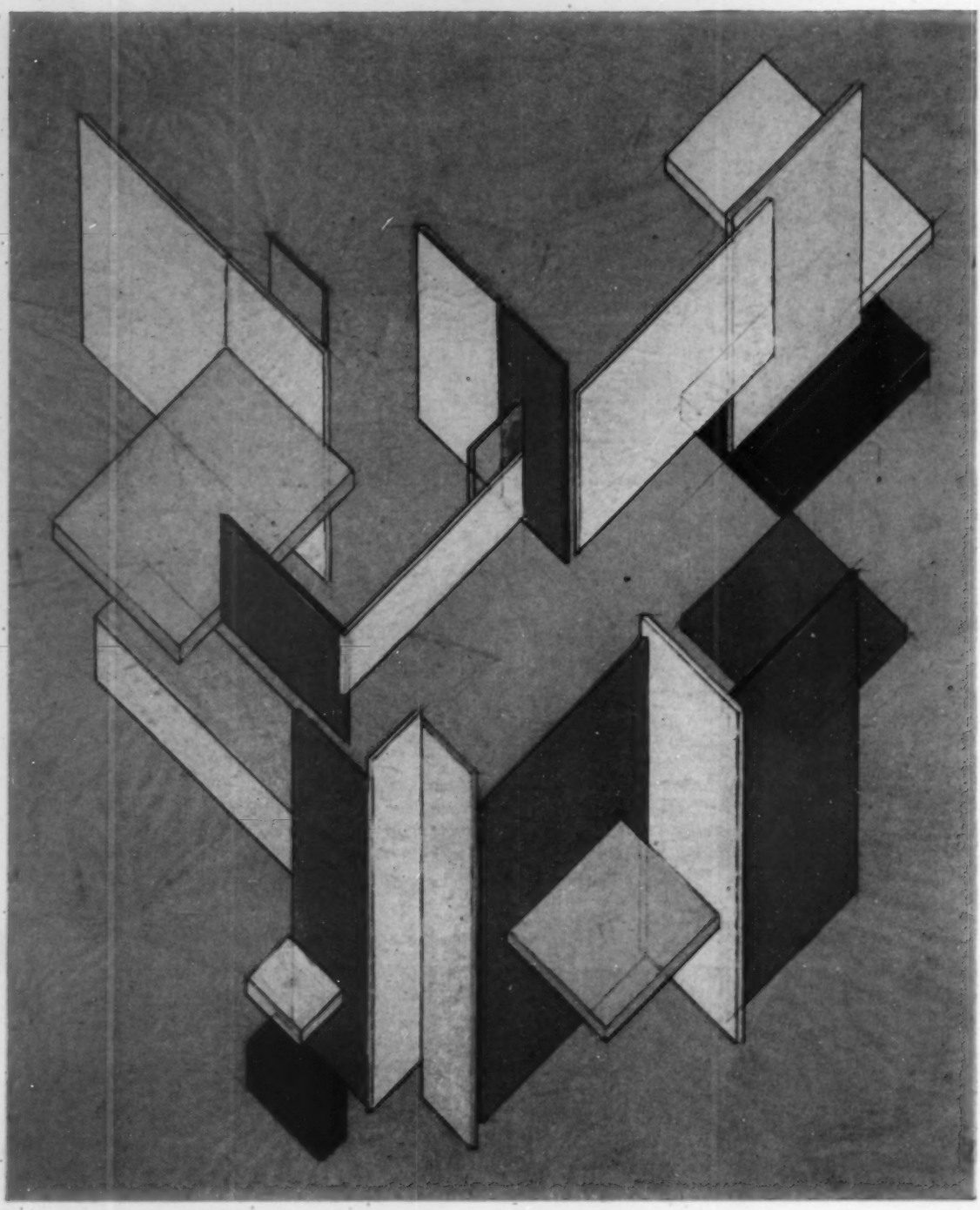
SCULPTURE, 1931, by Vantongerloo

black magic and that they have denied the human soul.)

More important to architects than the incidental discoveries made by these artists is the fact that their productions point toward a universal language of design. As Gyorgy Kepes effectively demonstrated at last year's Ann Arbor Conference, a naïve functionalism can produce no architecture. There must be a concurrent study of design as a means of visual communication.

Such study must be a little more serious than the copying of Miro kidney shapes in tea tables, the way an Egyptian "motif" might be "adapted" from a museum.

The opportunity for the present wide discussion has been brilliantly created by Mrs. Burton Tremaine, sponsor of the Miller Collection of Abstract Art, now on exhibit at the Institute of Contemporary Design in Boston. Simultaneously, Henry-Russell Hitchcock has written a clear and evocative book, PAINTING TOWARD ARCHITECTURE (Duell, Sloan & Pearce) based on the exhibition. Captions used in the RECORD are from the exhibition, and most are quotations from the book.



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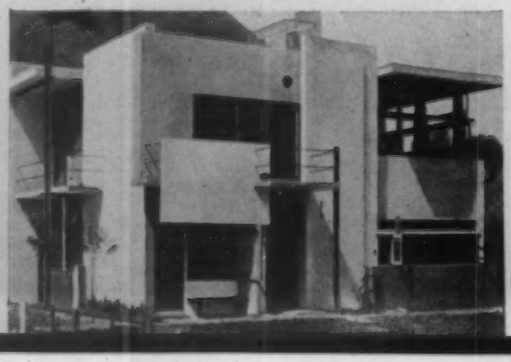
"Van Doesburg's isometric color constructions of the early '20s on which the architect Van Eesteren sometimes collaborated, may be read by the observer either as autonomous abstract pictures or as extremely bold projects for a hypothetical architecture. . . . It was Rietveld, in a house built in Utrecht in 1924, who translated the compositions of Van Doesburg most directly into architecture . . . Rietveld's house represents an extreme case of the direct influence of abstract painting on architecture."



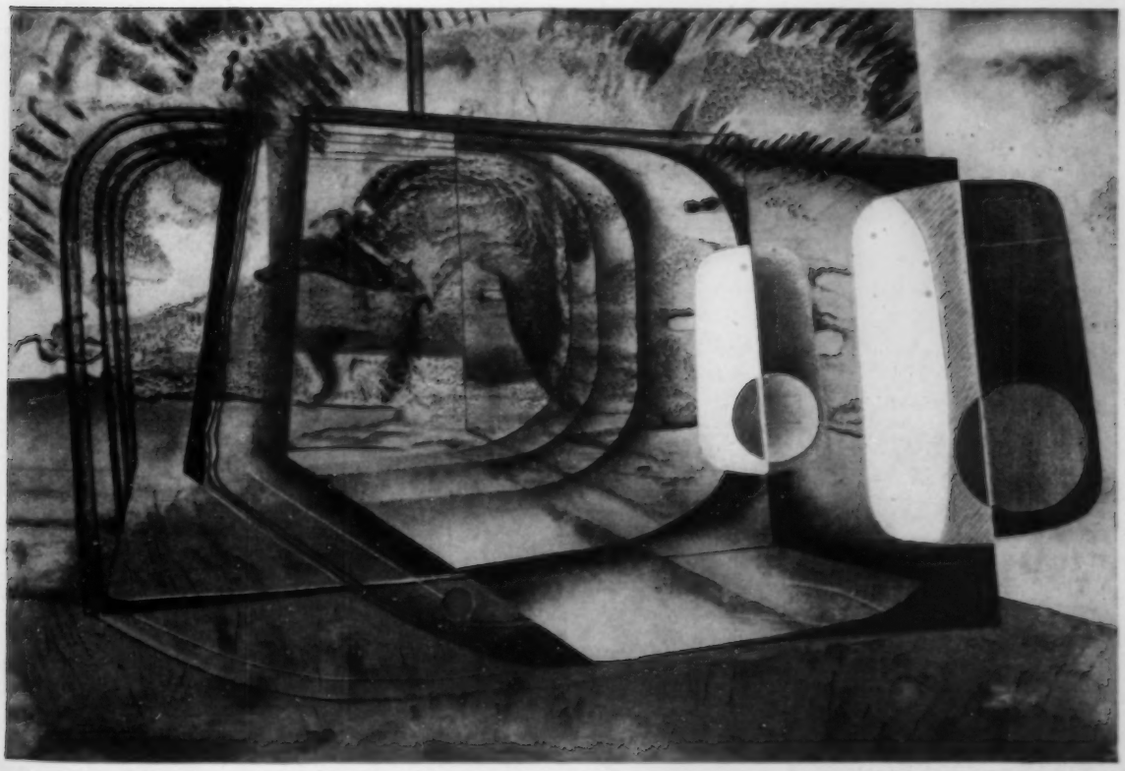
Above, SPACE-TIME CONSTRUCTION NO. 3, 1923, by Theo van Doesburg (1883–1931)

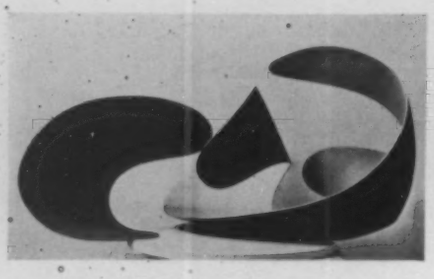
Left, SCHROEDER HOUSE, Utrecht, Holland, 1924, by G. Rietveld

SPLITTING OF THE ERGO, 1945–46, by Roberto Matta Echaurren

The Chilean painter Matta "goes farther than any other contemporary painter toward suggesting a future architecture of the subconscious. Within his vapor-filled spaces he projects possibilities which are at the poles from . . . [earlier architectural] clarity and logic . . ." The English artist Tunnard produces paintings "more weather-conscious" than earlier "purism" did, suggesting textures more resistant to time. The suggested architecture is akin to the Whipsnade house of Lubetkin, sharp light structure combining straight lines with curves

AVENUE, 1944, by John Tunnard





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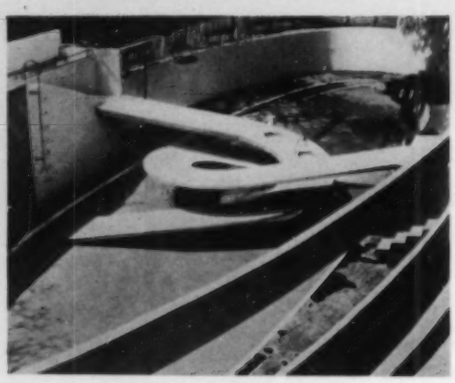


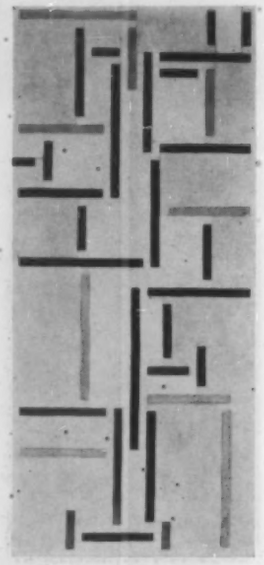
Courtesy Museum of Modern Art

BLACK, YELLOW AND RED, 1942, by José de Rivera

PENGUIN POOL, London, England, 1933, by Tecton

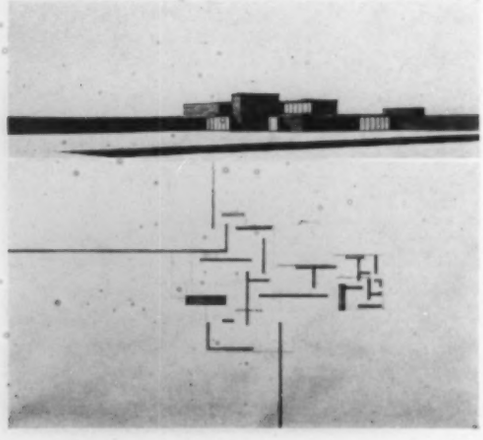
"The Penguin Pool by Tecton, built for the London Zoo, and *Black, Yellow and Red* by the American sculptor José de Rivera furnish another pair of resemblances. The sculpture is a decade more recent than the pool and yet both show those organic and sweeping curves which are characteristic of much abstract art. Rivera's elegant sculpture is shaped out of thin sheets of light metal; it suggests motion, 'streamlining,' [as in an automobile]. And the automobile did not design itself; it took its present form because a few artists had a certain conception of contour and shape.

"In the Penguin Pool, streamlining—in a quite literal sense—conveys a feeling of motion and flow. The aquatic installation, the home for the fast-swimming birds, in short, the structure seen in terms of its function, determine the design"



RHYTHMS OF A RUSSIAN DANCE, 1918, by Theo van Doesburg

COUNTRY HOUSE PROJECT, 1923, by Ludwig Mies van der Rohe



"In various house projects by Mies van der Rohe in the early twenties the influence of Van Doesburg is evident in the pattern of the floor plans; and even in his latest work, . . . his façades often seem to approach very closely to the rigid discipline of Mondrian. [Because he abjures strongly colored areas and occult balance], his explicit denial that this influence continues can be accepted. It is to the very dissimilar abstract art of Paul Klee that Mies remains especially devoted." The subtlety and mystery in the relationships between modern architecture and abstract painting are illustrated by this apparent contradiction

Above and right: Courtesy Museum of Modern Art, New York

RELIEF, 1934, by Jean Arp

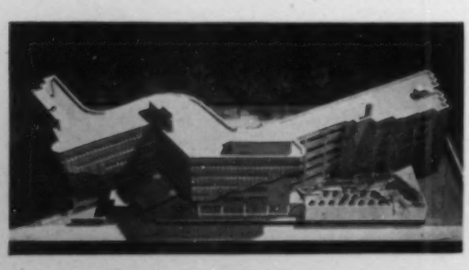
Copyright The Miller Company

SENIOR HOUSE AT MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Memorial Drive

Cambridge, Mass., 1947

Alvar Aalto, Architect (first model)



Jean Arp was one of the first artists in Paris to move from the machinelike compositions characteristic of Leger and other important abstract painters of the twenties. His freer forms took on a more organic aspect. Arp, however, stopped short of recognizable forms, content with the grace and sweep of living contours.

"The richly lyric curves of his mature work are echoed in the work of architects as far apart as the Finnish Aalto and the Brazilian Niemeyer. The free flowing curve of plan, a melodic counterpoint to the regular rhythms of skeleton construction, has become a powerful vehicle of architectural expression"

L'Architecture d'Aujourd'hui

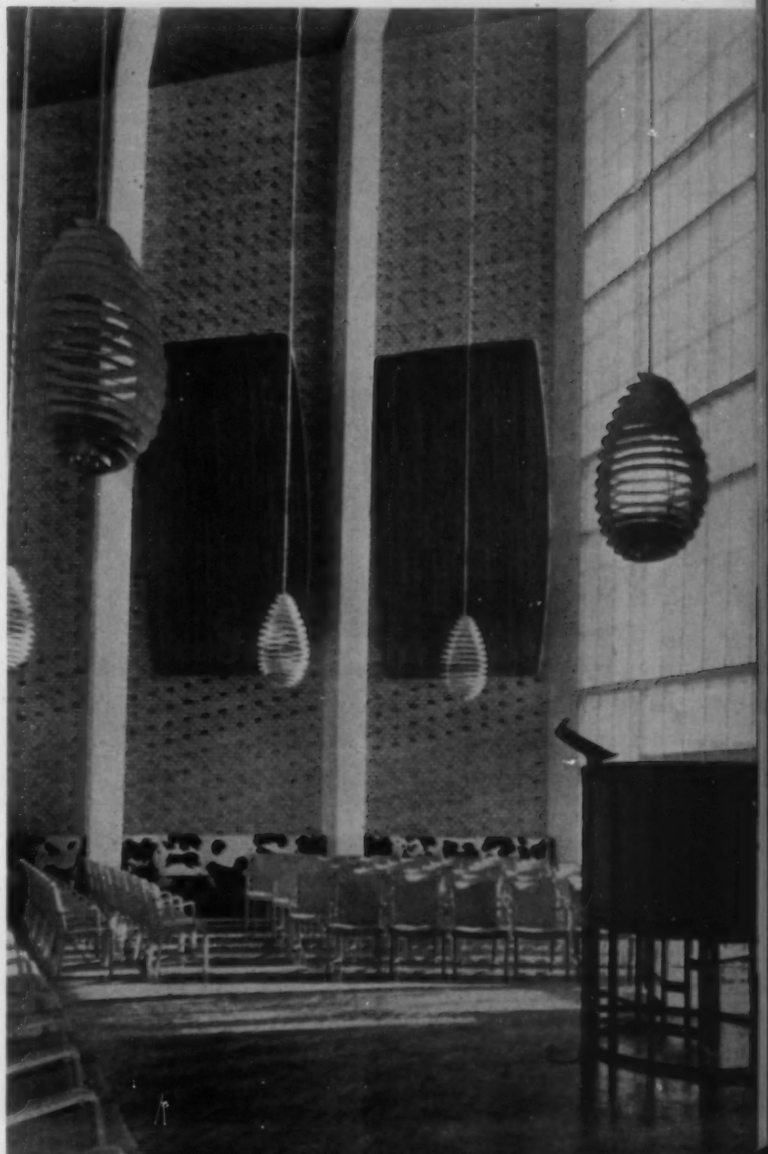
Projected hospital for St. Lô, France, represents the flexible adaptation of U. S. Public Health Service standards to specific needs in a hospital in France. (Paul) Nelson, Gilbert, Mersier et Sebillotte, architects. —*L'Architecture d'Aujourd'hui April, 1948*

ARCHITECTURE ABROAD AND HERE

Review of Periodicals

Decorativeness unabashed, in Arhus University assembly hall, Denmark, C. F. Moller, Kay Fisker, the late Paul Stegman, architects (des. 1931) —*The Architectural Review, Oct., 1948*

The Architectural Review



WARS bring architectural change, felt some years later; after World War I a drawing together, and after World War II apparently a drawing apart of different major regions. In view of the new world-wide interests of the United States, the RECORD will resume, from time to time, the reviews of foreign periodicals and news sources that were so widely read a feature of the magazine in the formative years following 1928.

Three or four basic zones would seem to be differentiating themselves (although the similarities are still probably basic). Starting at home, they are the American, the European, the Russian, although in important respects Europe and America belong together as "Western," and Latin America is almost a zone to itself.

That something is afoot in Europe was already sensed by the RECORD in its report on new work by the Dutch Oud (Dec., 1946). There was noted a resort to "embroidery," a certain deliberate breaking up of the building forms for the sake of smaller scale, a certain sentimental "humanization." During 1947 *The Architectural Review* of London gave a more systematic account of something called "new empiricism," as contrasted with the earlier rationalism. Very symptomatically its roots were found strongest in compact countries of smaller size or population, such as Switzerland, Sweden, Denmark, with perhaps an echo in more than one heart in the Isle itself. (*The Architectural Review*, June, 1947.) Significantly, some proponents recalled names such as Brunelleschi, the man of charming and delicate forms not too dogmatically employed. (See as passable examples the Dutch railroad stations, RECORD, Oct., 1948,

and the Danish university building shown herewith.)

That the underlying trend is not confined to Europe is indicated by various efforts to annex American phenomena into it, notably that supposed "Bay Region style" of our West Coast which has enjoyed an identity in Europe, as a "style," not acknowledged in the United States as a wholly separate thing except among followers of Mr. Lewis Mumford, author of the phrase.

To Americans, perhaps the most constructive European creation, in the new mood, has been that unique and appealing management of "picturesque" panorama to be found in Britain's plans for her "new towns" (*The Architectural Review*, March, 1948).

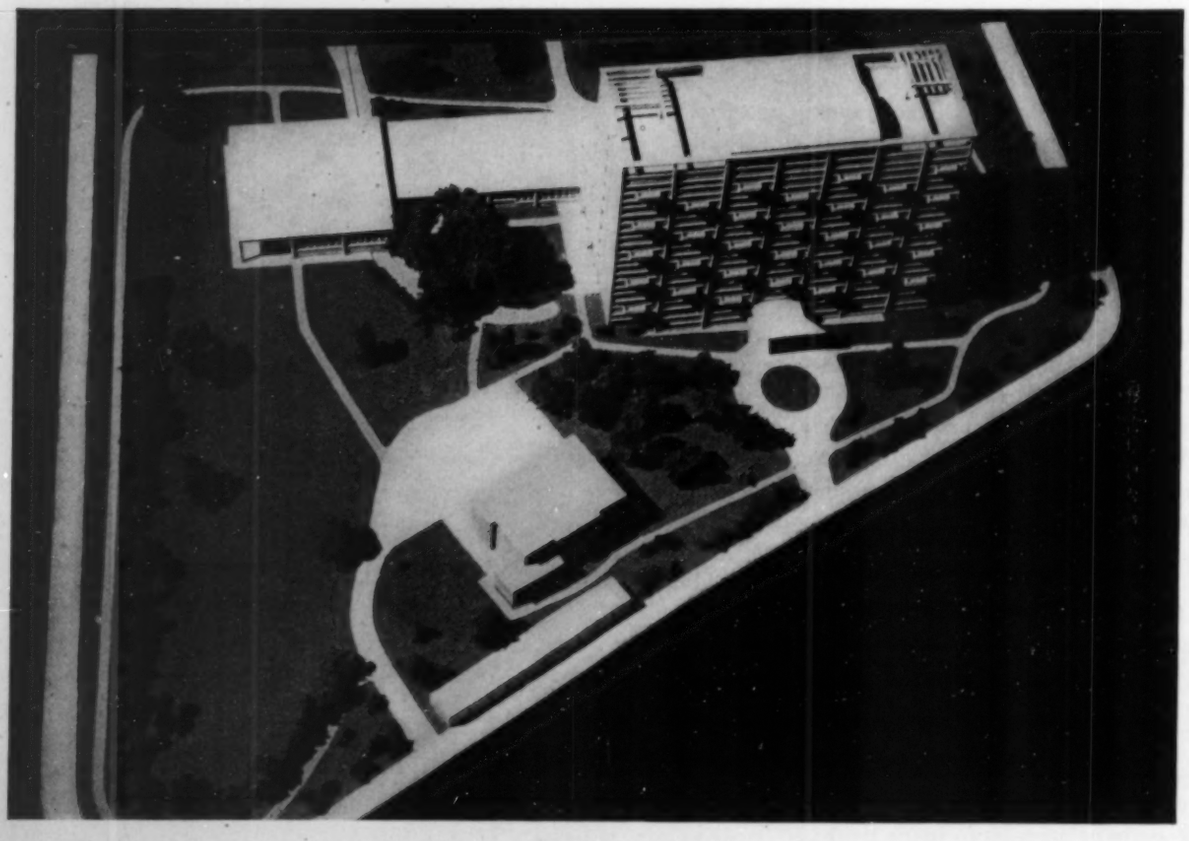
In part, however, this European movement looks reactionary and sick: a failure of imagination, and still more a failure of nerve after a deep hurt.

Meanwhile Russian Marxism seems to have undergone some astonishing reversals, asking for an architecture deliberately not universal but strictly "national," in which "progress" is expressed by "monumental art . . . to assimilate the cultural heritage of the past," and "democracy" by the fact that the architect is to be led in taste and execution by those who have less knowledge and less sensibility than he, instead of freely giving the neighbors the advantage of his full experience in his own field, in exchange for theirs in their fields. "The contemporary architecture of any European or American town is a regimented art," declaims the Russian Alabyan, in whose country 18th-century architecture is imposed by ukase; and precisely our most progressive architecture is what he calls "decadent." (*New Times*, published by *Trud*, August 6, 1947.)

Out of all this there emerges the fact that American architecture has unconsciously started on a path of exploration more separate than has probably been understood either abroad or here. Not much comprehension is found for that emerging "environmental" concept which goes so far beyond early "functionalism" as an expansion and humanization of it instead of a retreat—retreat either into tight privacy or into 18th-century grandiloquence coupled with backwardness.

In some charming notes on his American visit, the Danish editor Høgsbro remarks how insecure he felt in Carl Koch's "glass houses" on Snake Hill, but how open the American was about his family and his house (*Bygmesteren*, No. 22, 1948). You can't live securely in glass unless you enjoy an industrial establishment coupled with a degree of liberty and peace. *D.H.*

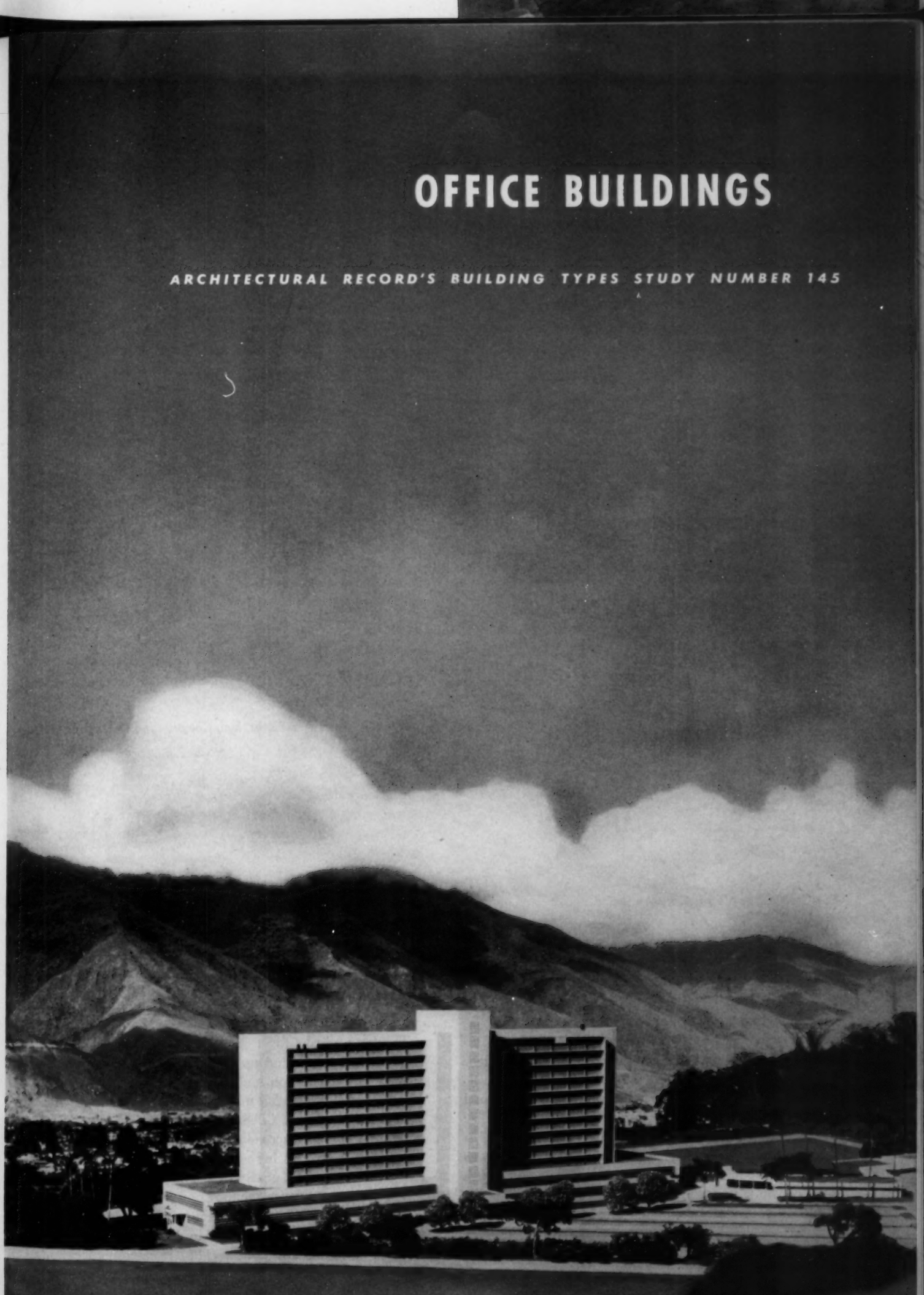
Architektura



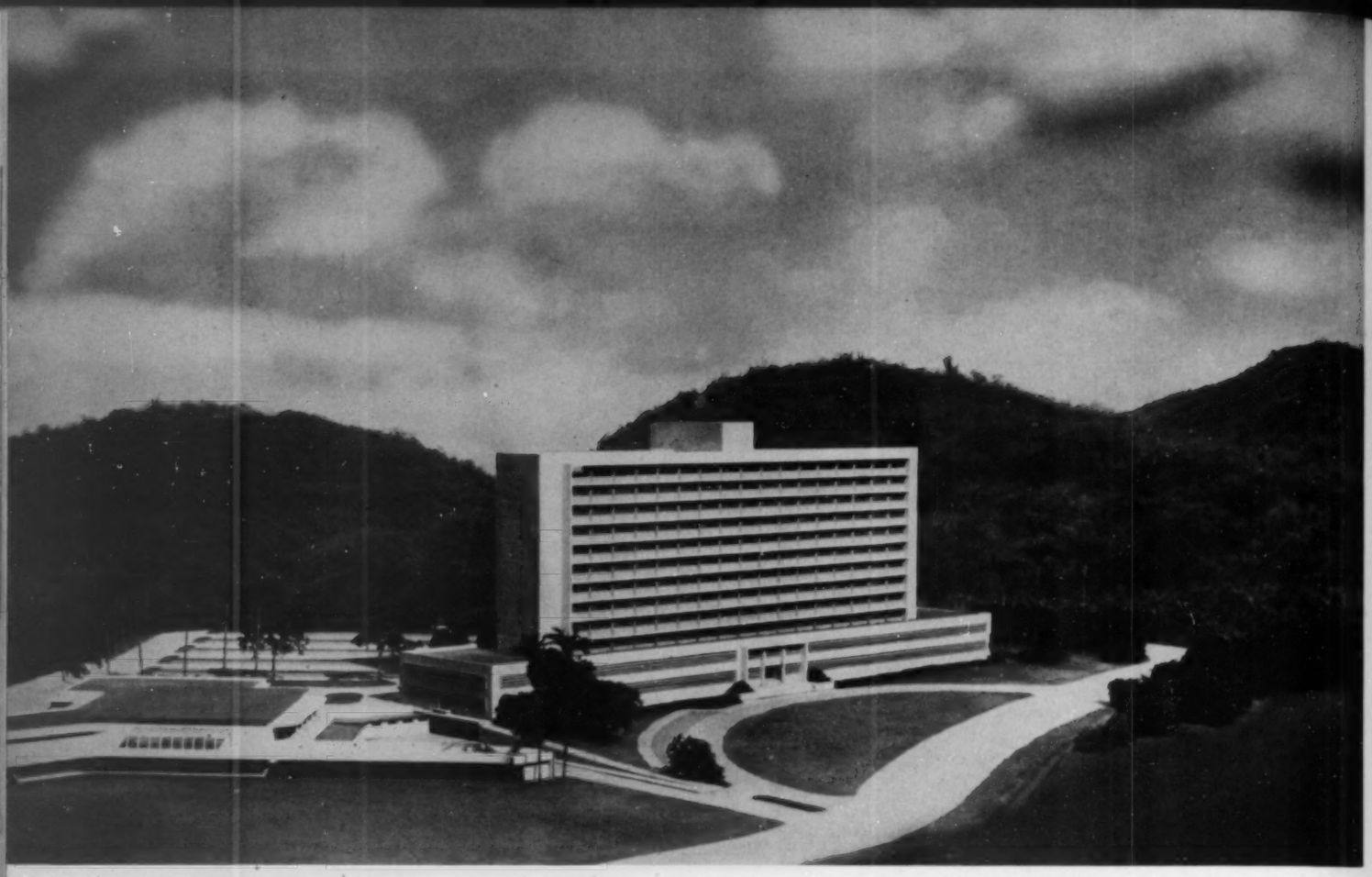
This apartment house for the town of Zlin, Czechoslovakia, by Jiri Vozenilek, has some interesting resemblances in general character to apartments in Cambridge, Mass. (page 88). Apparently it has been impossible to impose Communist dogma completely on a Slavic country that has enjoyed Western civilization and can show Moscow a clean pair of heels technically. (See the interesting article on Zlin by Jan Pokorny and Elizabeth Hird, Record, Aug., 1947)— From Architektura

OFFICE BUILDINGS

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 145



EDIFICIO ESSO, CARACAS, VENEZUELA *Lathrop Douglass, Architect*



EDIFICIO ESSO

CARACAS, VENEZUELA

John W. Harris Associates, Inc., Construction Management

Lathrop Douglass, Architect

Fred N. Severud, Structural Engineer

For Creole Petroleum Corporation

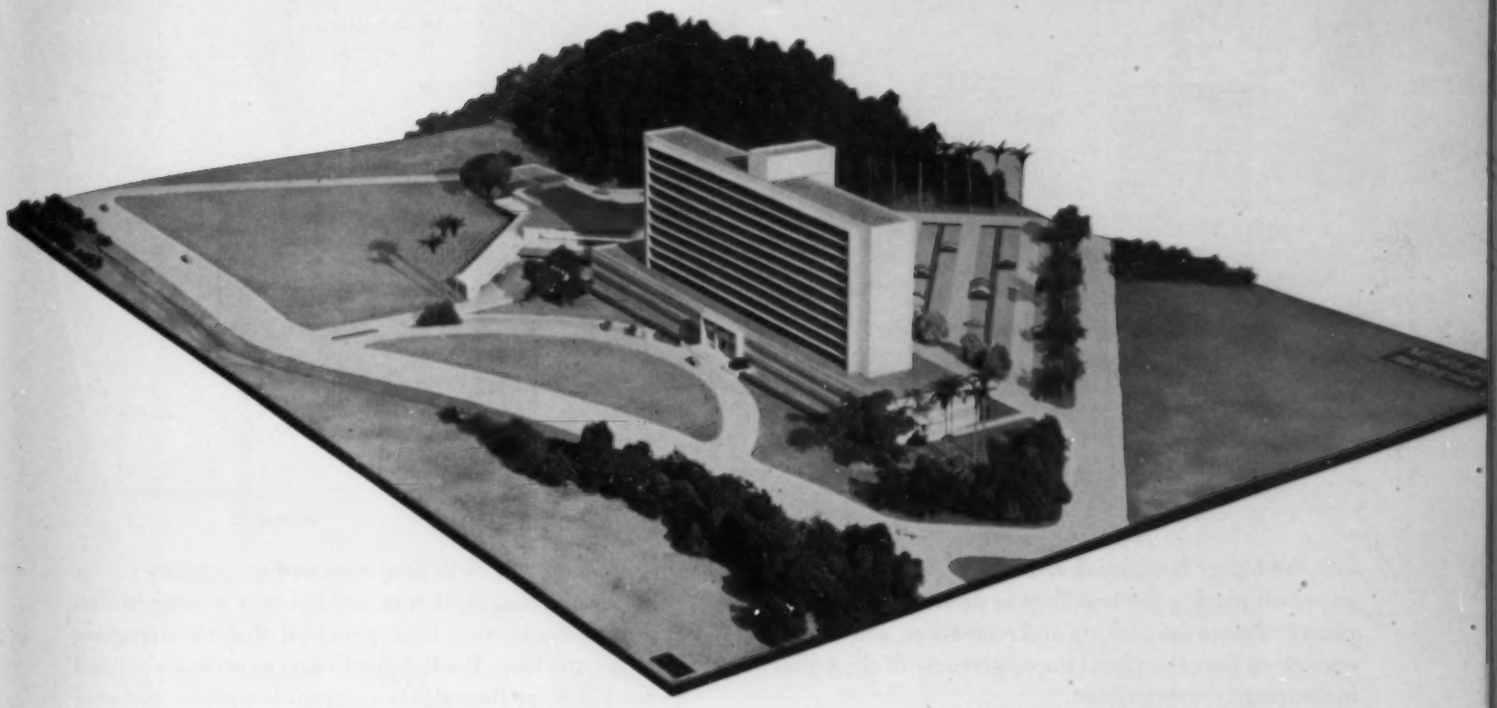
Guy B. Panero, Mechanical Engineer

THE architect for this building is one of those who have called attention to some new criteria for office building design.* The project here presented is unusually fortunate for demonstration of new standards as applied to a specific case, for here the site and circumstances allowed virtually complete freedom in design. The project has been approved and the drawings completed, but construction has been voluntarily postponed by Creole. With a limited supply of steel and other critical items available for export, Creole has elected in the national interest to devote all of its allocations to actual oil production, even though its office employees must continue under unsatisfactory conditions.

Although the final design is quite happy with respect to clean lines and imposing masses, these esthetic considerations waited upon the realization of more utilitarian objectives. In this case they did flow very naturally from the working out of functional solutions.

The long narrow form resulted from several factors: orientation in a hot and sunny climate, planning for the most direct circulation and greatest flexibility, and integration of specific office needs of the company that will occupy the building. (These are analyzed in detail as separate items on succeeding pages.) The wide, heavy base came from massing several large departments on two lower floors. The neatly closed ends grew out of the sun problem, as did also the long horizontal lines formed by sun visors. And the projection of the elevator core was by no means whimsical; it came directly out of the engineers' earthquake design. The separation of cafe-

*"New Departures in Office Building Design," by Lathrop Douglass, ARCHITECTURAL RECORD, Oct., 1947.



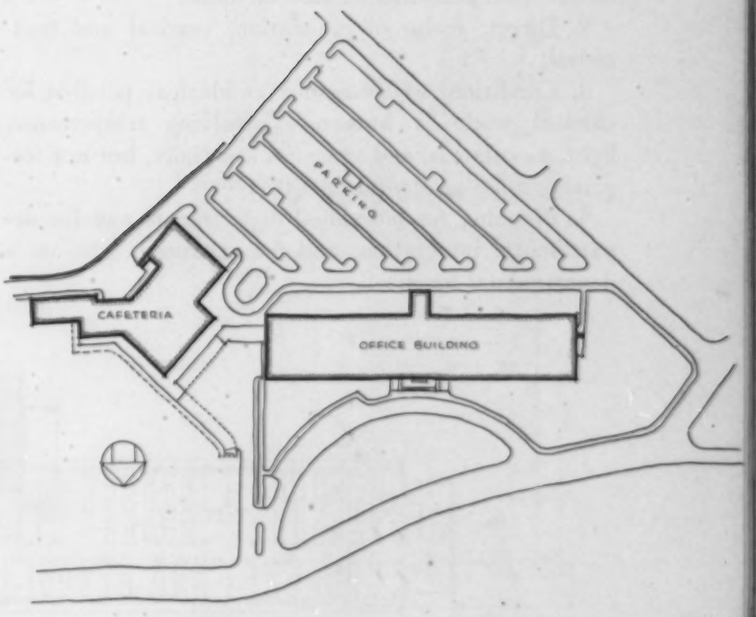
Louis H. Dreyer Photo

teria and other employee facilities as a separate structure was also a logical development of the local problems — in Caracas recreational and similar employee provisions are exceptional, and the separate building permits a longer and more relaxed use than if these were in the main building. In general, then, this whole building project represents a from-the-ground-up study of office building functions, applied first to the individual company and then to the special considerations of its locality, everything falling into place nicely in an unusually handsome building.

It is interesting to note that in another building (page 104), done by the same architect, for the same company, from the same criteria, but for another location, the final design differs in important respects, but is also visually pleasant.

The Caracas climate, which hovered so constantly over the architect's drawing boards (even though they were in New York), was important in two major respects. The year-round temperature is almost ideal — it was necessary to provide neither heating nor cooling. Always, provided, of course, that the almost tropical sun can be prevented from making the interior of a building act like a solar heater. In other words, control the sun and one need never worry about temperature. On the other hand, there are very humid days; thus ventilation is important on this count also, and thus it was necessary to air condition the I.B.M. rooms to keep the cards from curling limply. This is another reason, by the way, for the deep interior spaces of the first and second floors.

These same conditions also led the architect to use a light, hollow exterior wall of prefabricated panels, in line with the current trend. The outer surface is sheet aluminum, backed by steel cellular panel (like the floor panel); then there is insulation, against solar heat only



(temperature differences are so slight that there is no problem of condensation); then an air space; and the interior surface is merely a finished steel panel (wall section on page 101).

Views are inspiring from this plateau high in the mountains. While the long narrow disposition is otherwise explained, the building does make the most of the mountains lined up at the rear and the open views to the front. The site is about half way between the business district of Caracas, a congestion of small buildings,

Louis H. Dreyer Photo

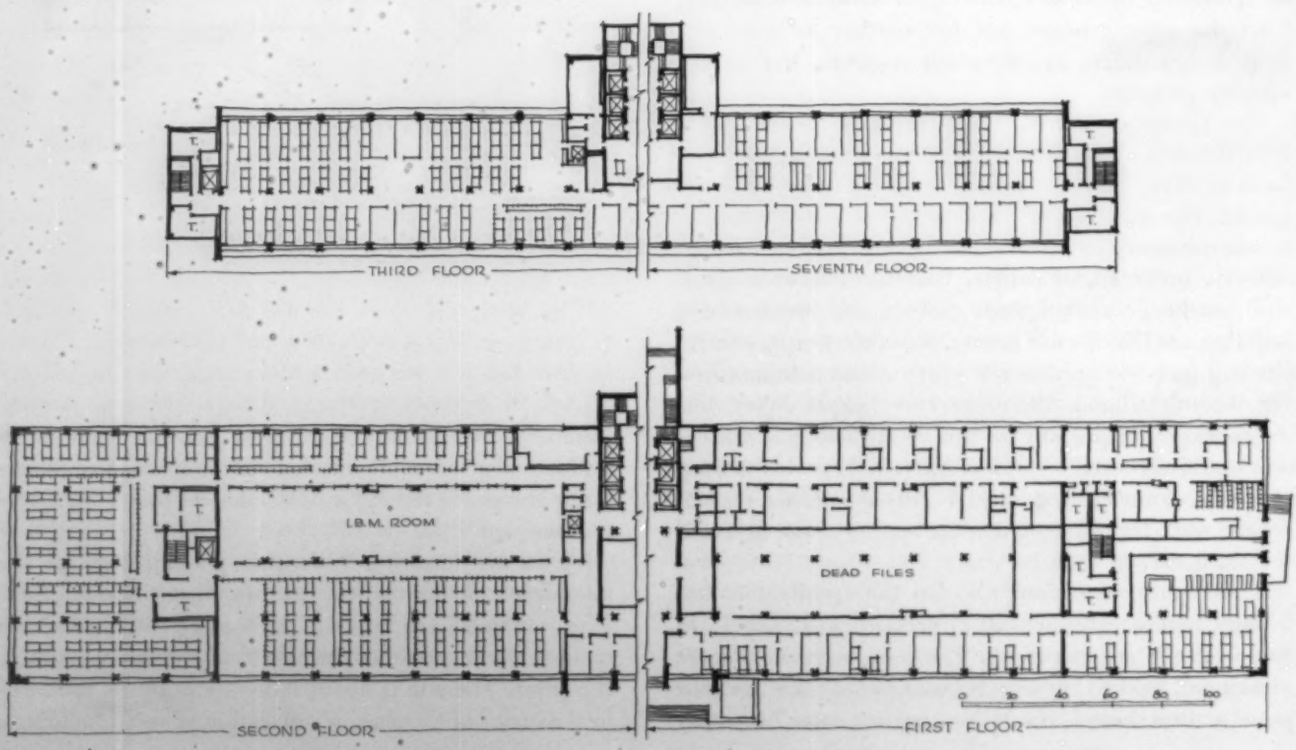
and the better residential districts. It was large enough to permit placing the buildings as desired, and to permit plenty of room for parking and recreation; and it is open enough so that the visual impressiveness of the building is completely unrestricted.

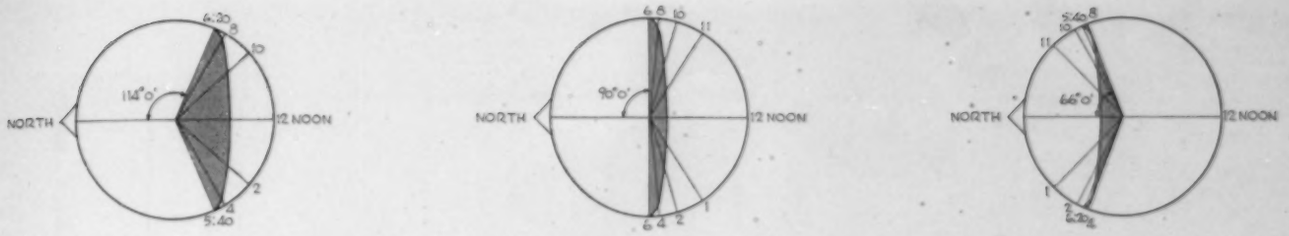
Of many criteria set up, these were selected as outstanding:

1. Flexibility, through standardized office sizes based on practical and efficient office layouts;
2. Direct, foolproof circulation, vertical and horizontal;
3. Conditions of occupancy as ideal as possible for efficient work by humans — involving temperature, light, ventilation, and acoustics especially, but not forgetting more incidental facilities;
4. Planning for individual departments and for departmental integration, and for expansion, also on a departmental basis;
5. Economy in both final cost and maintenance.

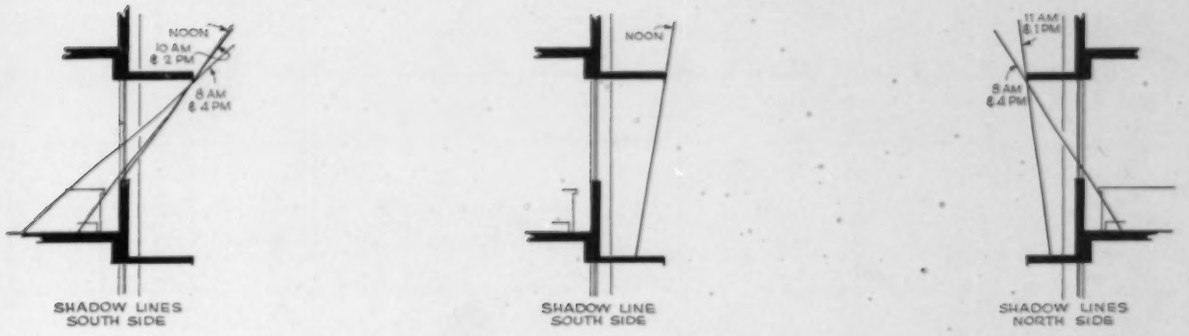
As for circulation, it was decided that a straight-line approach would work best, provided that the distances were not too long. Rockefeller Center experience seemed to set 175 ft. as thoroughly acceptable walking distance from elevators if the route were straight. Twice that, or 350 ft., might be taken then as an empirical maximum building length. This, tested here as to departmental divisions of space, worked out well, and checked also with other factors tending toward the long narrow building.

Maintenance as a planning factor also needs a special mention. It was considered worth extra attention for a building where normal sources of supplies were not at hand and where skilled maintenance labor might not be readily available. First cost then was studied with maintenance cost as the first test.





AZIMUTH AND ALTITUDE OF SUN



WINTER
DEC. 22

A.M. P.M.	AZIMUTH	ALTITUDE
Noon	180°–0′	56°–30′
10–2	139°–0′	45°–30′
8–4	120°–30′	22°–30′
6:20–5:40	114°–0′	0°–0′

FALL
SEPT. 23
SPRING
MAR. 21

A.M. P.M.	AZIMUTH	ALTITUDE
Noon	180°–0′	80°–0′
11–1	123°–0′	72°–0′
10–2	106°–30′	58°–30′
8–4	95°–30′	29°–30′
6–6	90°–0′	0°–0′

SUMMER
JUNE 22

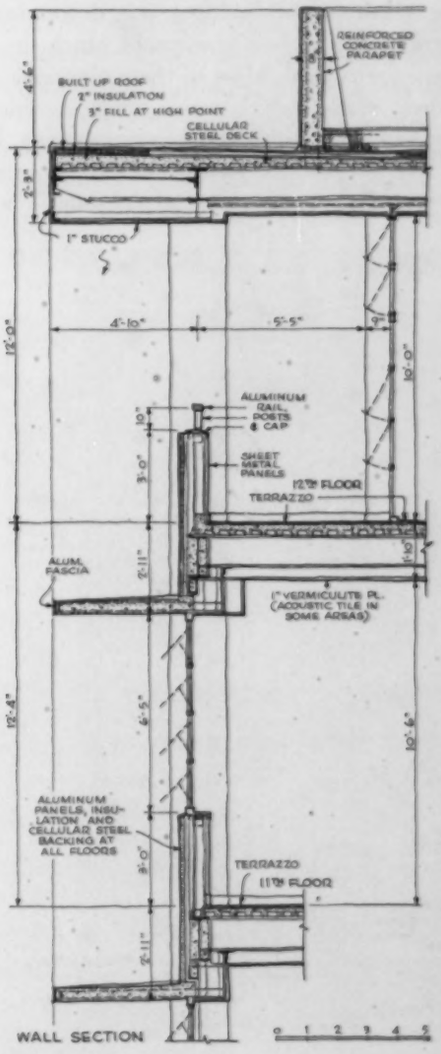
A.M. P.M.	AZIMUTH	ALTITUDE
Noon	0°–0′	76°–30′
11–1	45°–0′	70°–30′
10–2	61°–0′	58°–30′
8–4	68°–30′	81°–30′
5:40–6:20	66°–0′	0°–0′

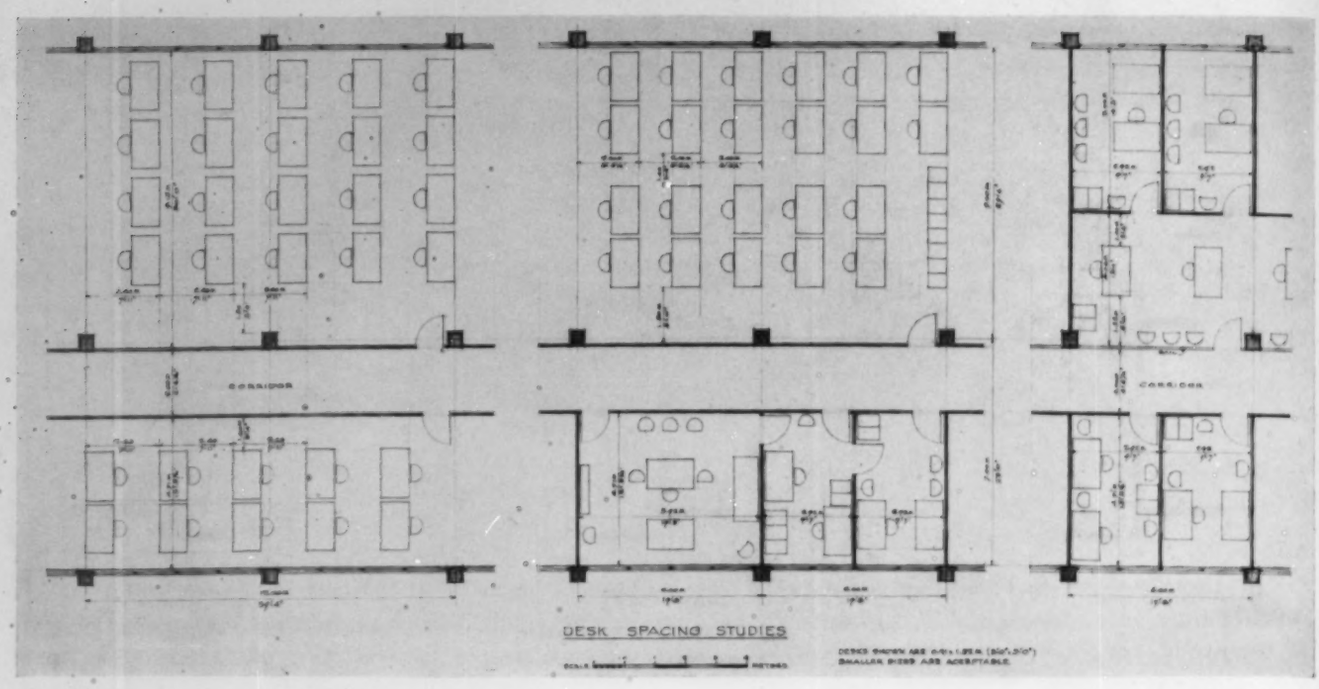
SUN DICTATES FORM

Here the sun was considered first from the standpoint of its heat — air temperature is almost ideal the year 'round, but a building can become a solar hot-bed. As the charts indicate, the sun in Caracas is high as well as hot. It shines from the south in winter, from the north in summer. On north and south sides it is easily screened off with fairly narrow visors. But on east and west ends, sun protection would be all but impossible.

The answer was obvious — a long, narrow building running east and west, with all offices facing north or south. And an extension of this idea was to block off both east and west ends with toilet rooms and stairs. Then no working space ever need have sun-heat troubles. As the sections (above) show, not even the desk nearest the window is ever touched by sunlight, and only rarely does any window glass get any sun. On the lower floors, the sun protection is by outside aluminum louvers, not overhanging visors, but the result is the same.

For maximum daylight, under such shading it is possible for the windows to be continuous, and inside shades or venetian blinds are not needed. A factor in this is that the glare of the sun is also avoided, yet normally glare would be such a consideration as to rule out such building forms as H or U plans, for the glare from one interior wall to another would be very disturbing. Fortunately the open site obviates glare from surrounding surfaces.



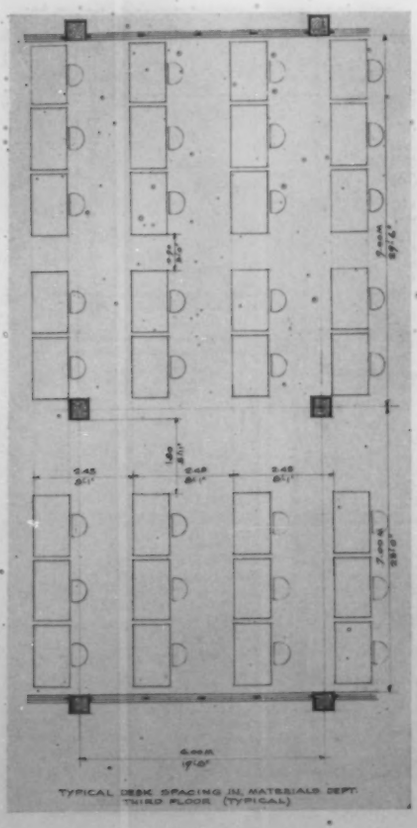


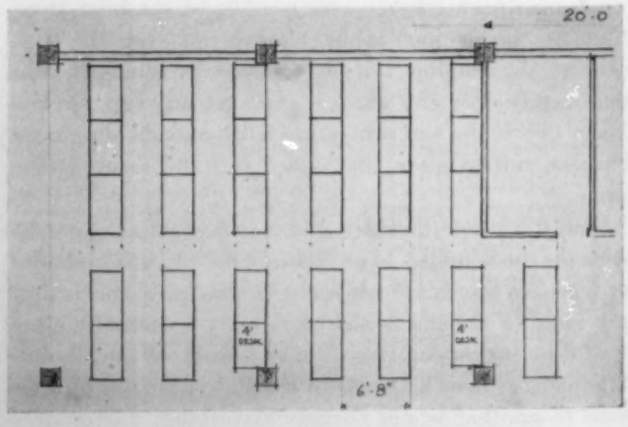
DESK ARRANGEMENTS DICTATE DIMENSIONS

The width of the building was determined by much diagramming of desk placing, of which the studies here shown are typical. Most of these diagrams are the early studies, made before some other considerations had their say as to width and column spacing, but they did set the pattern. It was these that suggested the offsetting of the center row of columns — while column spacing along the outside wall is uniform, the depth from the windows differs on the two sides of the building. The 29 ft. 6 in. depth permits five 3 by 5 desks in an open office, as shown, while the shallower depth is better for partitioned offices.

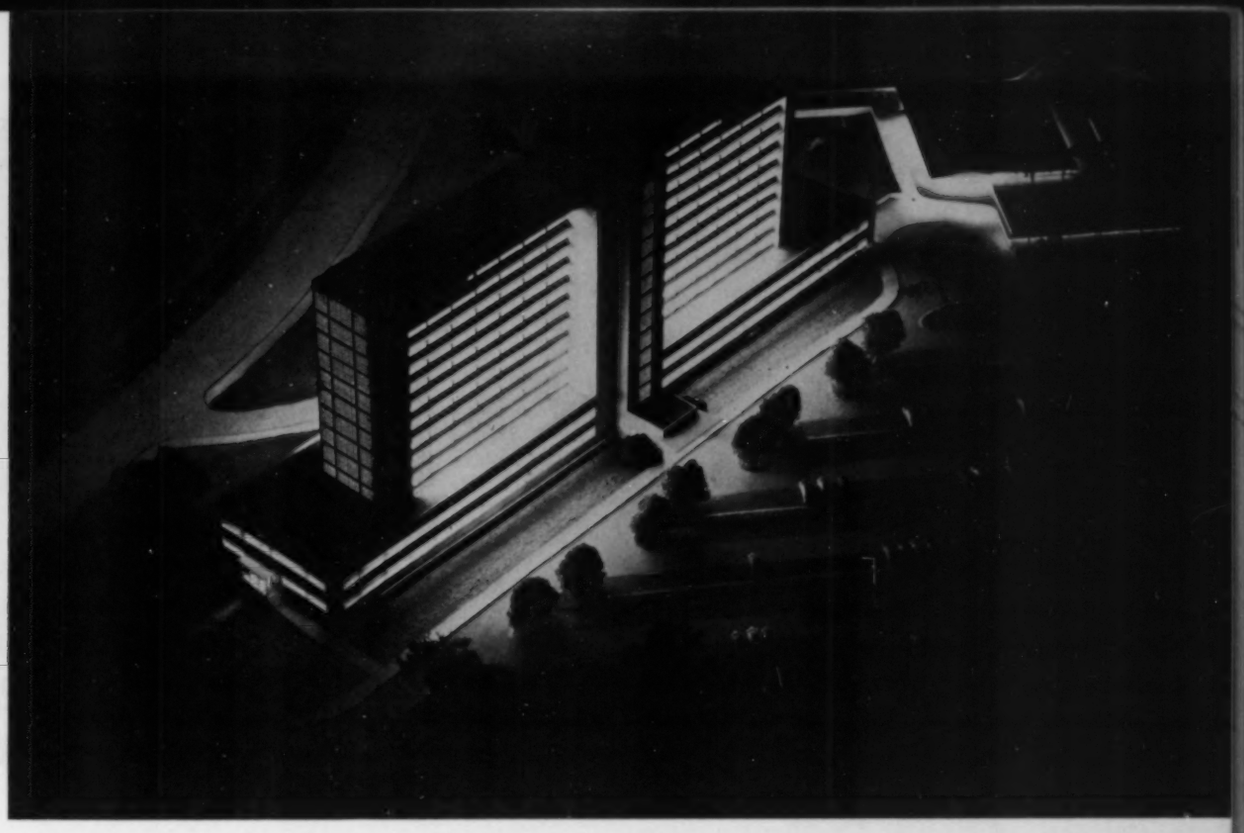
The horizontal column spacing started out to be 6 meters (18 ft. 6 in.), with a module of 1½ m for partitioning at the mullions. It was later decided to do the plans in feet, so the column spacing went to 20 ft., with 5 ft. modules.

Columns outside the building wall was an early objective to keep the interior free of any obstruction to desk placing or partitioning. A slight contretemps developed when it was later found that earthquake bracing would block this idea. More studies were made (lower





Louis H. Dreyer Photo

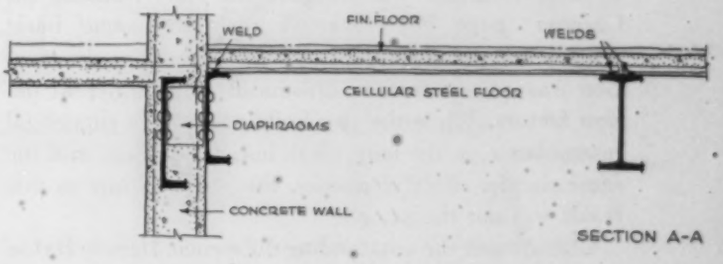


AND EARTHQUAKE ENGINEERING CROSSES THE FINAL T

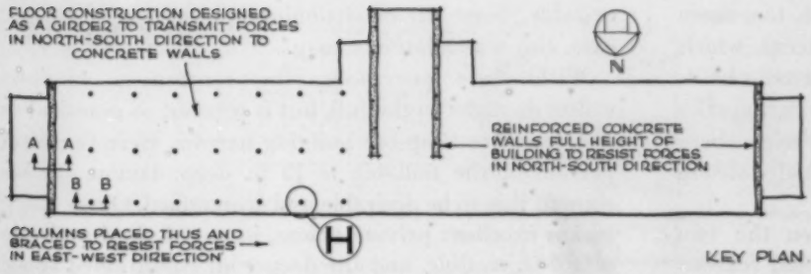
right-hand corner) to see what the sacrifice would amount to, and whether the building ought to be widened enough to keep the same clear space. It was found, however, that the five-desk case was the only one much affected, and that a cheaper answer was to substitute a 4-ft. desk in every third row, and that widening the building might be carrying the desk theory a bit too far.

Although there has not been an earthquake in Caracas in 100 years, it is considered to be in an earthquake zone, and the resulting structural design had two important effects on planning. One has just been mentioned — it was necessary to keep the columns in line with outside walls. This came about through the angle bracing required, as shown in the detail in the lower right-hand corner. Note that the braces are concealed in the spandrels. The other effect was the lateral bracing required — the heavy masonry walls at the ends and at the center. At the ends these walls fell right in with the sun-protection scheme, and in the center they shoved the elevator core out the rear of the building (for additional stiffness). But this worked out nicely too, for they are well placed for any future extension of the building, which would logically be done from this central core.

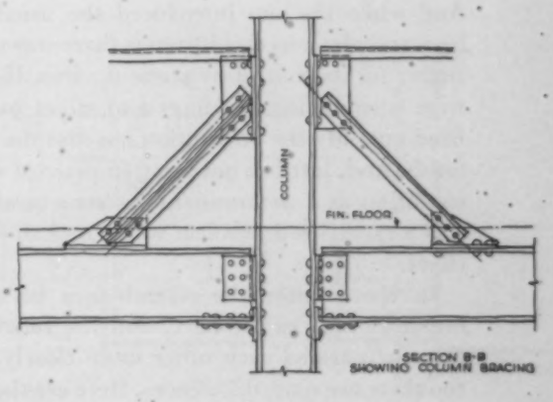
DETAILS OF EARTHQUAKE BRACING



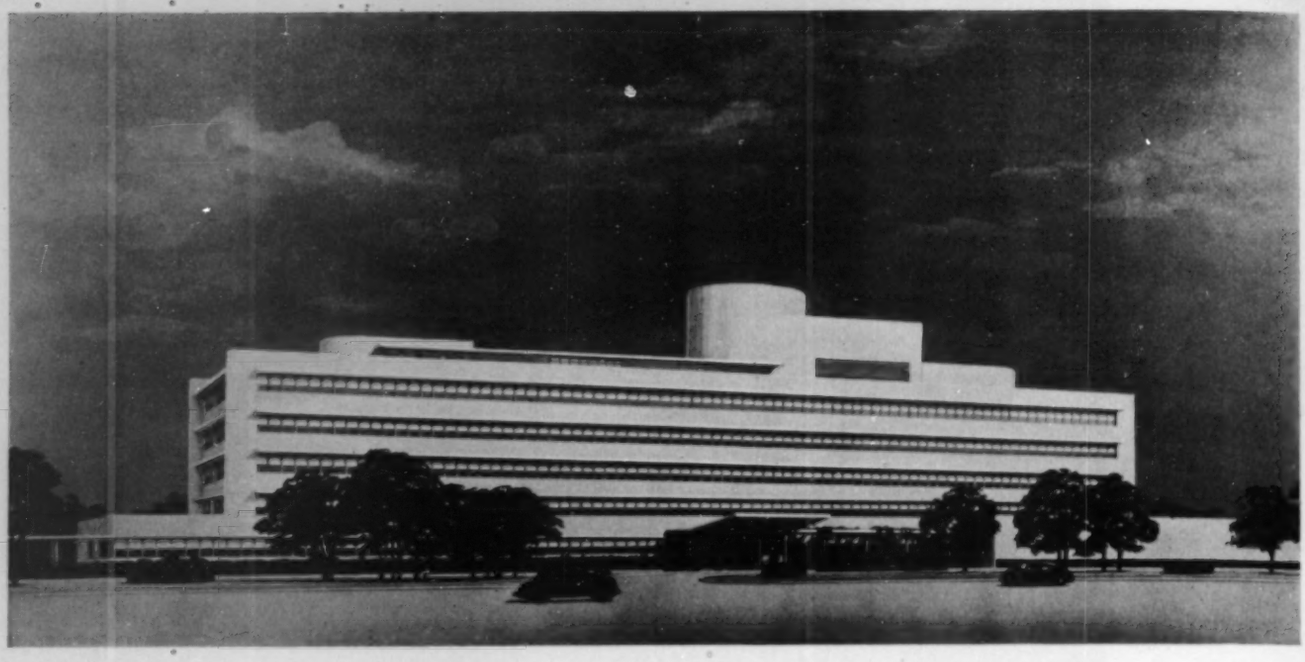
SECTION A-A


FLOOR CONSTRUCTION DESIGNED AS A GIRDER TO TRANSMIT FORCES IN NORTH-SOUTH DIRECTION TO CONCRETE WALLS
N
A A
B B
REINFORCED CONCRETE WALLS FULL HEIGHT OF BUILDING TO RESIST FORCES IN NORTH-SOUTH DIRECTION
COLUMNS PLACED THUS AND BRACED TO RESIST FORCES IN EAST-WEST DIRECTION
H

KEY PLAN



SECTION B-B SHOWING COLUMN BRACING



ESSO BUILDING, BATON ROUGE, LOUISIANA

For Esso Standard Oil Company

IN PLANNING this office building the architect — the same architect who designed the Esso Building for Caracas (page 98) — started with the same basic criteria, for the same client. But the fact that the location was quite different introduced many different design factors. While the two buildings have a superficial resemblance, in the long, clean horizontal lines, and the same simple, effective masses, the general route to this result was not the same.

Climate was the outstanding difference. Here in Baton Rouge the summer temperature is plain hot, and it is also humid, and air conditioning became a necessity. And while the sun introduced the usual problems of heat and glare, in this instance there was not the opportunity for its control by static devices. Here, too, there were surrounding buildings and street patterns, which fixed not only the orientation but also the exterior brick finish. And, last but not least, in place of an earthquake condition as a determinant for structural design there was a special soil problem which had an equally strong effect.

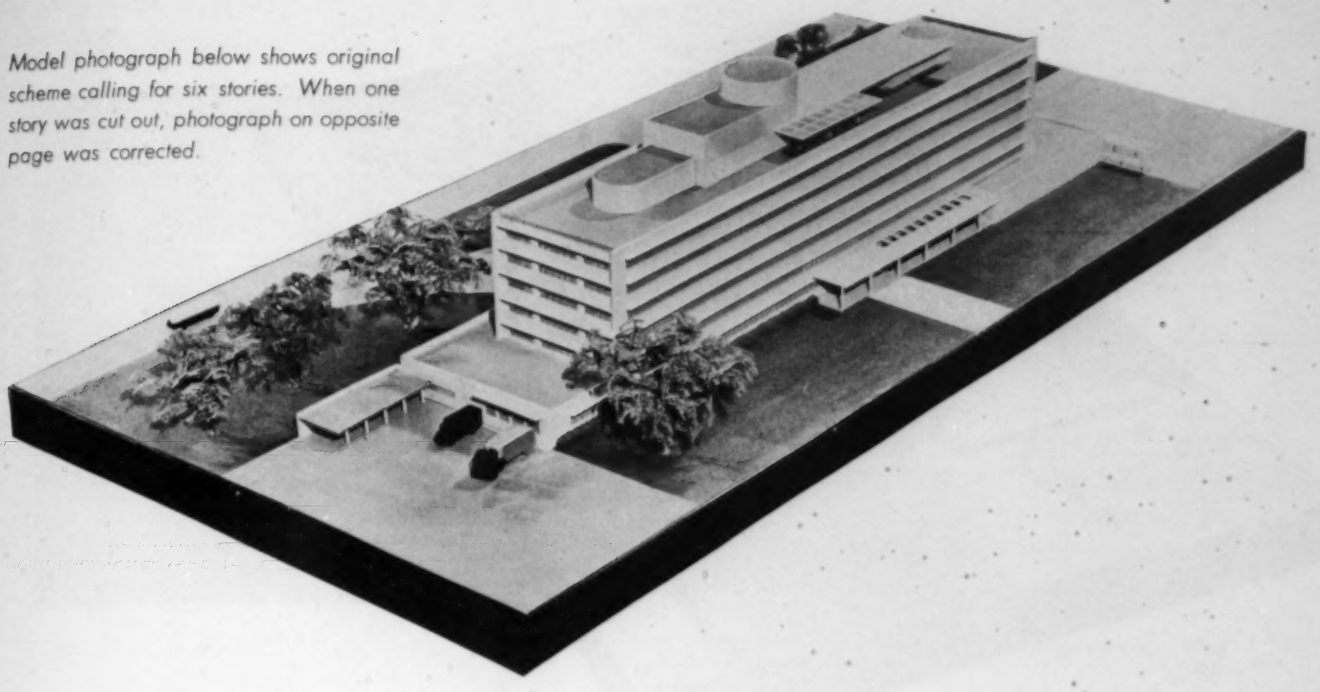
In the interior the resemblance between the two buildings is even stronger, and the functional reasons therefor parallel each other more closely, though here too there are some differences. Here are the basic criteria at work — direct and easy circulation, the utmost in flexibility of space use, the best possible provisions for effective office work. Economy in maintenance was not quite as important as first cost, for in Baton Rouge supplies could be had and skilled labor was readily available.

Because the orientation was really predetermined by the site, it was necessary here to control solar heat and glare by a combination of devices. The sun visors help, but since the main exposures had to be east and west, they could not possibly keep sun off the windows; therefore the 3-ft. overhang is purely arbitrary. For the rest, venetian blinds were used, and the air conditioning load was calculated to take out what solar heat was inevitable. Since air conditioning was necessary in any case, this was relatively easy.

With these provisions, the continuous windows utilize daylight to the full, but it was not so practical as in Caracas to keep the building narrow. Here the main portion of the building is 72 ft. deep; layout studies showed this to be desirable and economical. Outer space makes excellent private offices, in any desired multiple of a 4-ft. module, and the deeper air conditioned space balances out well for services, files and storage.

The flexibility of partitioning is not hampered by any

Model photograph below shows original scheme calling for six stories. When one story was cut out, photograph on opposite page was corrected.



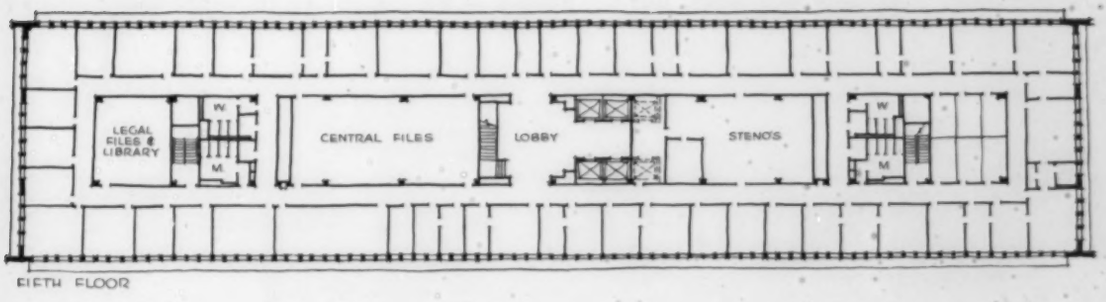
John W. Harris Associates, Construction Management

Lathrop Douglass, Architect

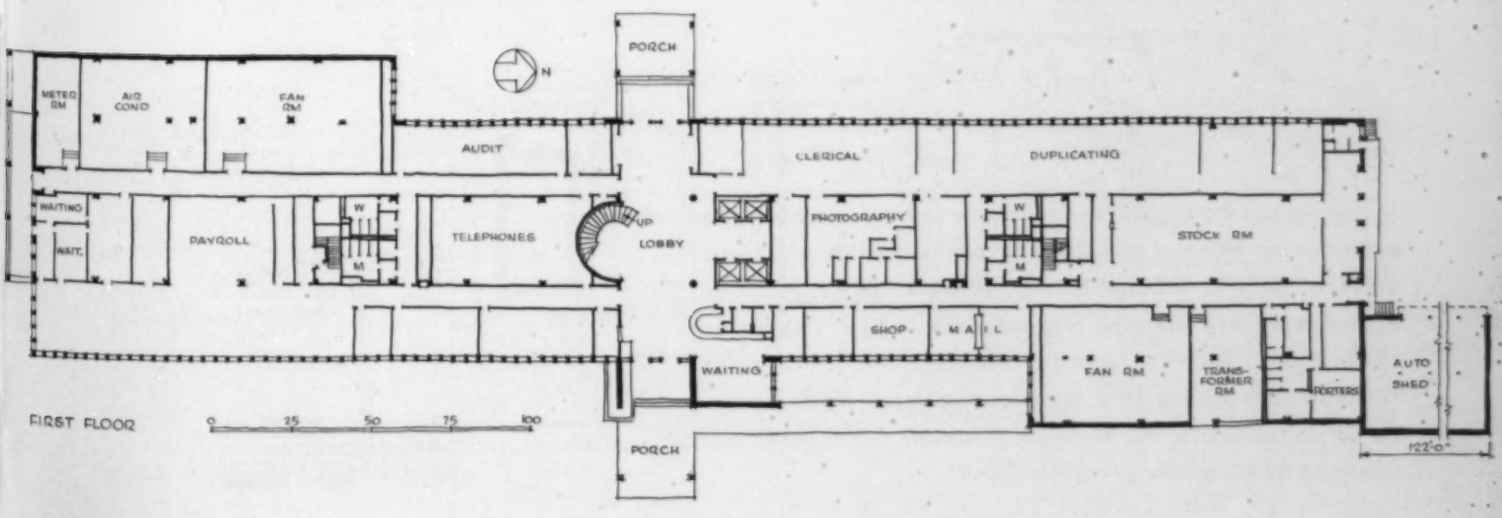
Carson & Lundin, Associate Architects

Guy B. Panero, Mechanical Engineers

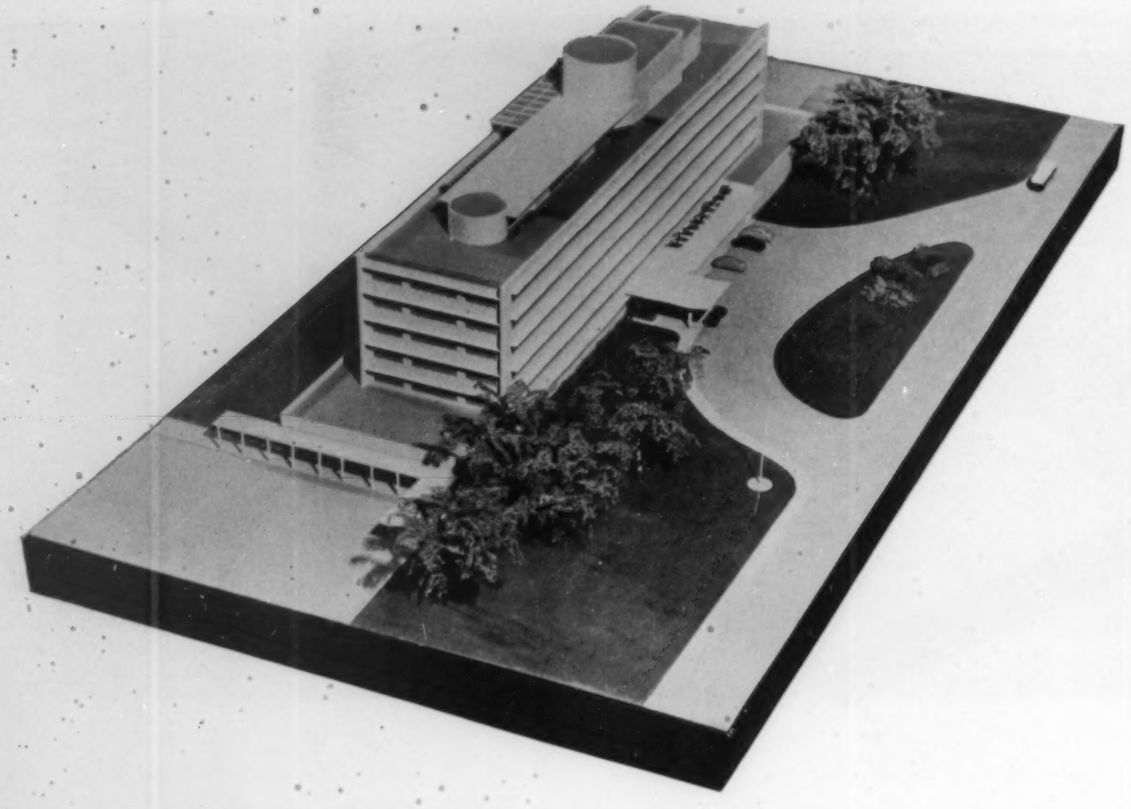
Strobel and Salzman, Structural Engineers



FIFTH FLOOR



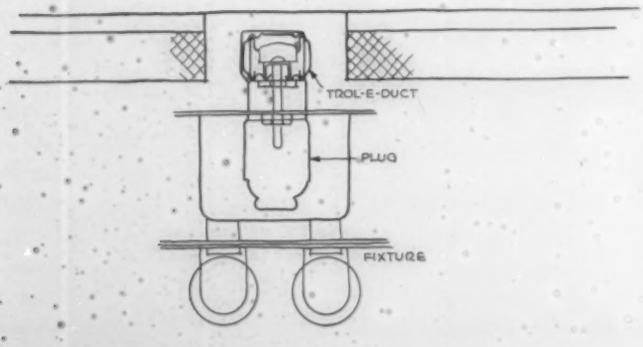
FIRST FLOOR 0 25 50 75 100

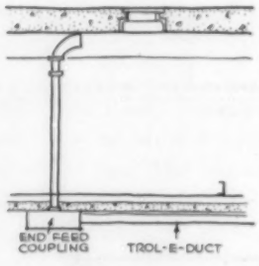


columns at the outside wall; here it was possible to keep the columns within the depth of the wall, and within 8 in. in width. Several ideas for light columns were studied; the final one (detail page 107) is a channel and a plate shop welded, fireproofed with vermiculite plaster. These columns alternate with a simple T-section mullion similarly fireproofed.

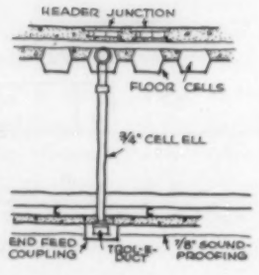
To add to the flexibility from unbroken walls, the ceiling is also unbroken, and the cellular steel floor provides continuous ducts for bringing wiring to any desired location. Air conditioning and lighting are also placed so that partitions can be changed at will.

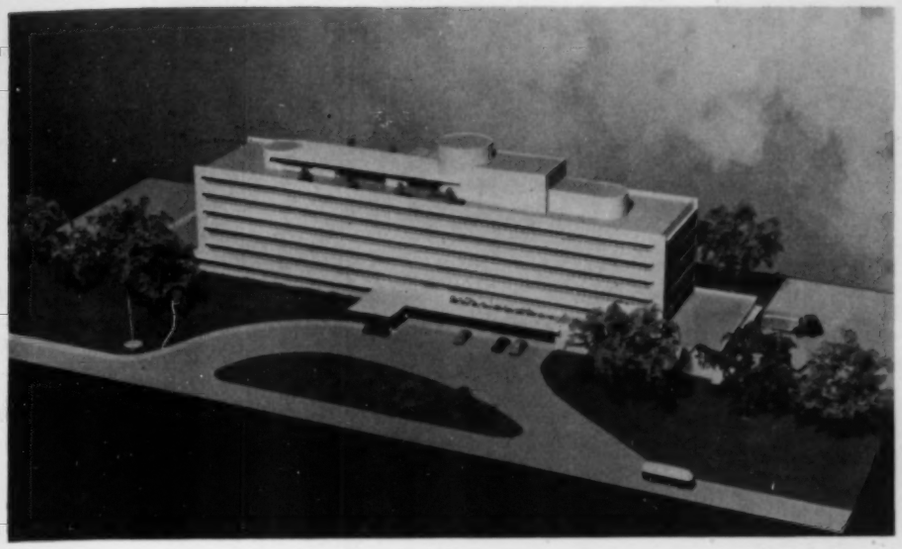
The light weight of this floor and column system was quite necessary on another count — the ground is a deep silt with no hard pan under it. The designers were limited to one ton per sq. ft. — the building had to be





In their desire for the utmost in flexibility the architects made use of a continuous bus system of connections for overhead lights, which was developed really for industrial building. The light fixture is connected to the duct by merely inserting a plug and giving it a twist. Thus fixtures can be placed anywhere and moved as desired in a moment. In adapting this for the office building the architect was able, in most places to recess the duct in the acoustic tile, keeping a reasonably smooth ceiling and minimizing the effect of long horizontal lines

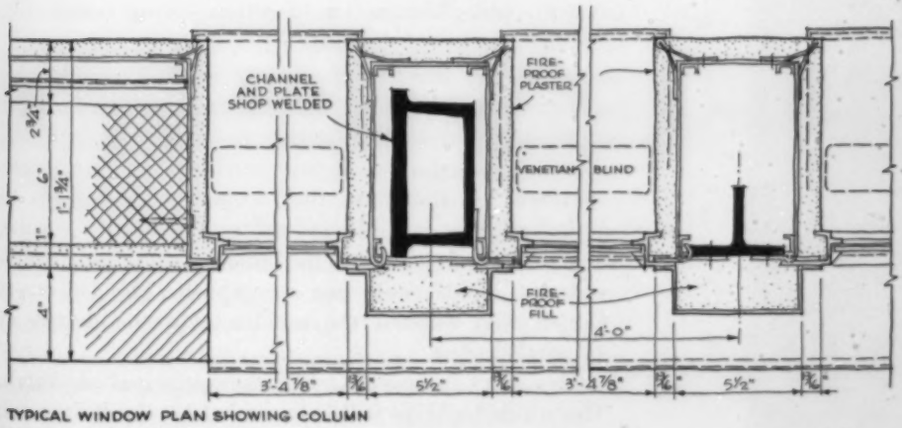




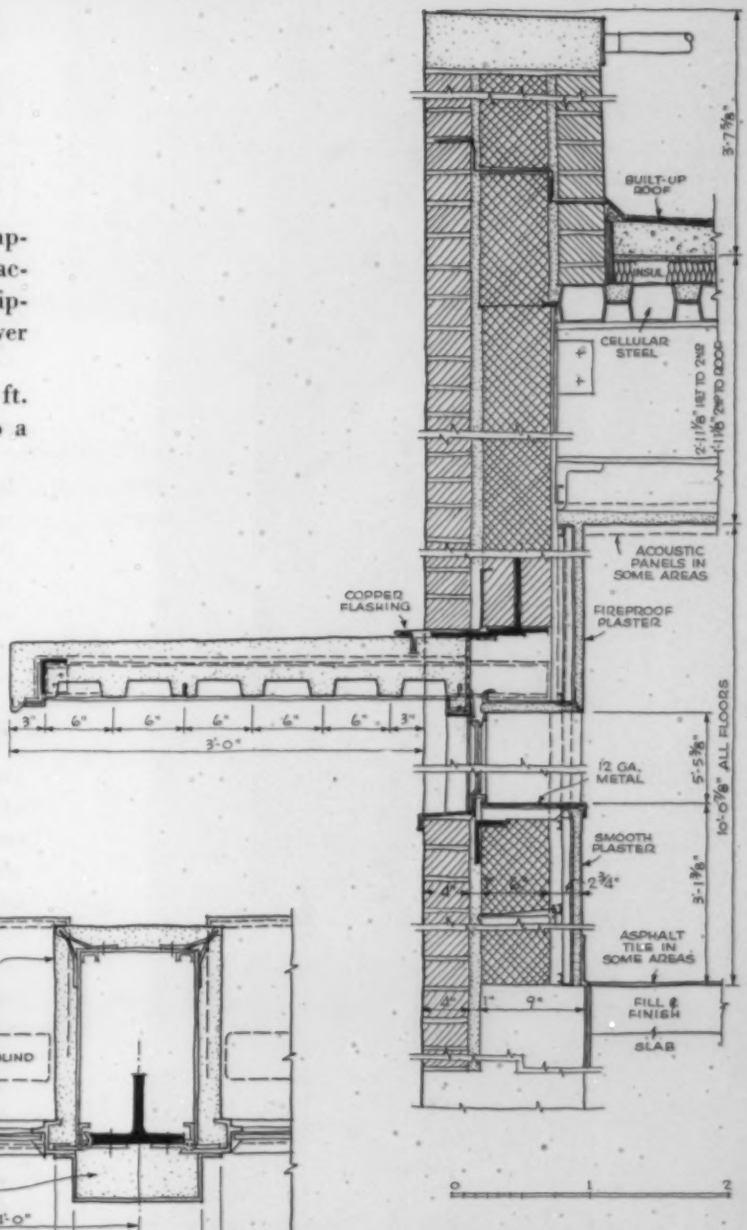
light, also horizontal. Moreover, the continual dampness virtually made a basement impossible; this accounts for the extended first floor for mechanical equipment (penthouse superstructure houses cooling tower and fan rooms).

The building, which will have a total of 170,000 sq. ft. of floor space, is now under construction, as is also a separate cafeteria building.

Here is a wall with no projecting columns to interfere with furniture arrangements or with partitioning. After trying various combinations of normal steel sections, the designers settled on the one shown below as the simplest to erect, with channel and plate welded in the shop



TYPICAL WINDOW PLAN SHOWING COLUMN



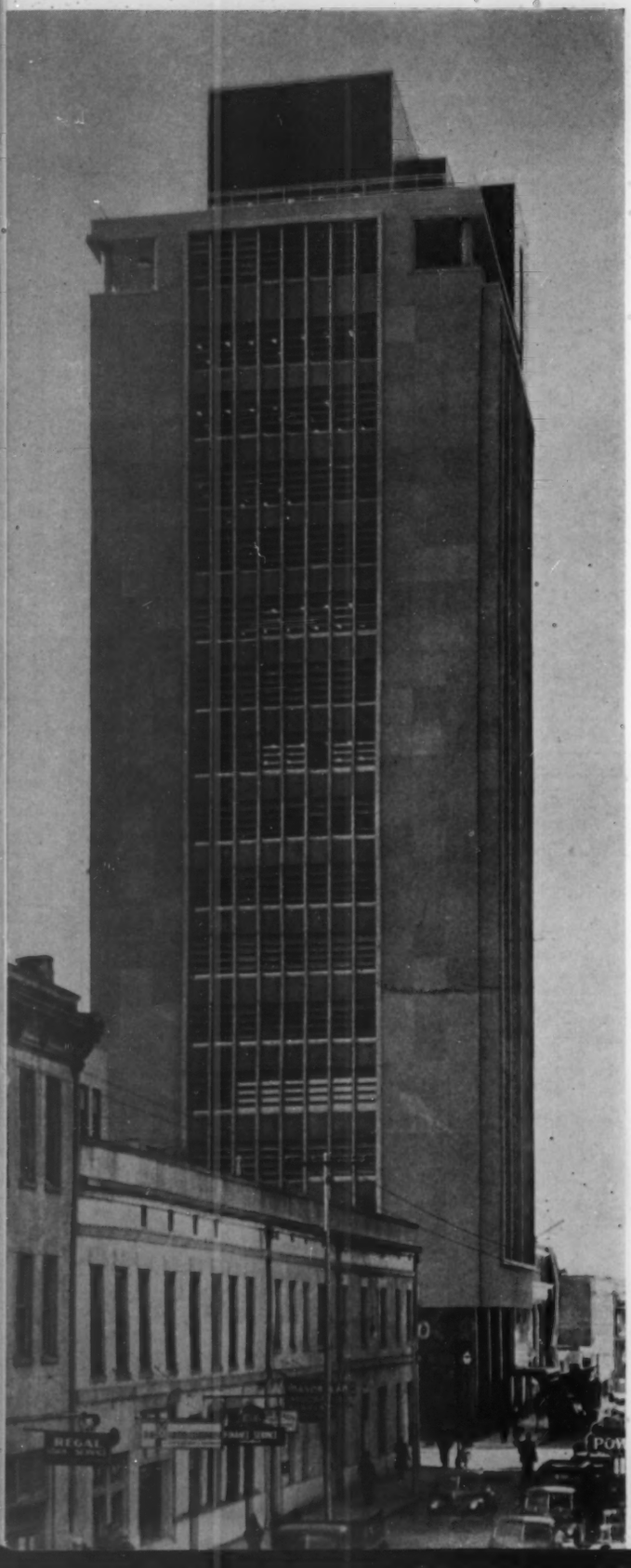
TYPICAL WALL SECTION

WATERMAN BUILDING, MOBILE, ALABAMA

For Waterman Steamship Corporation

Platt Roberts, Architect

O. W. Long, Jr., and A. B. Benson, Associate Architects

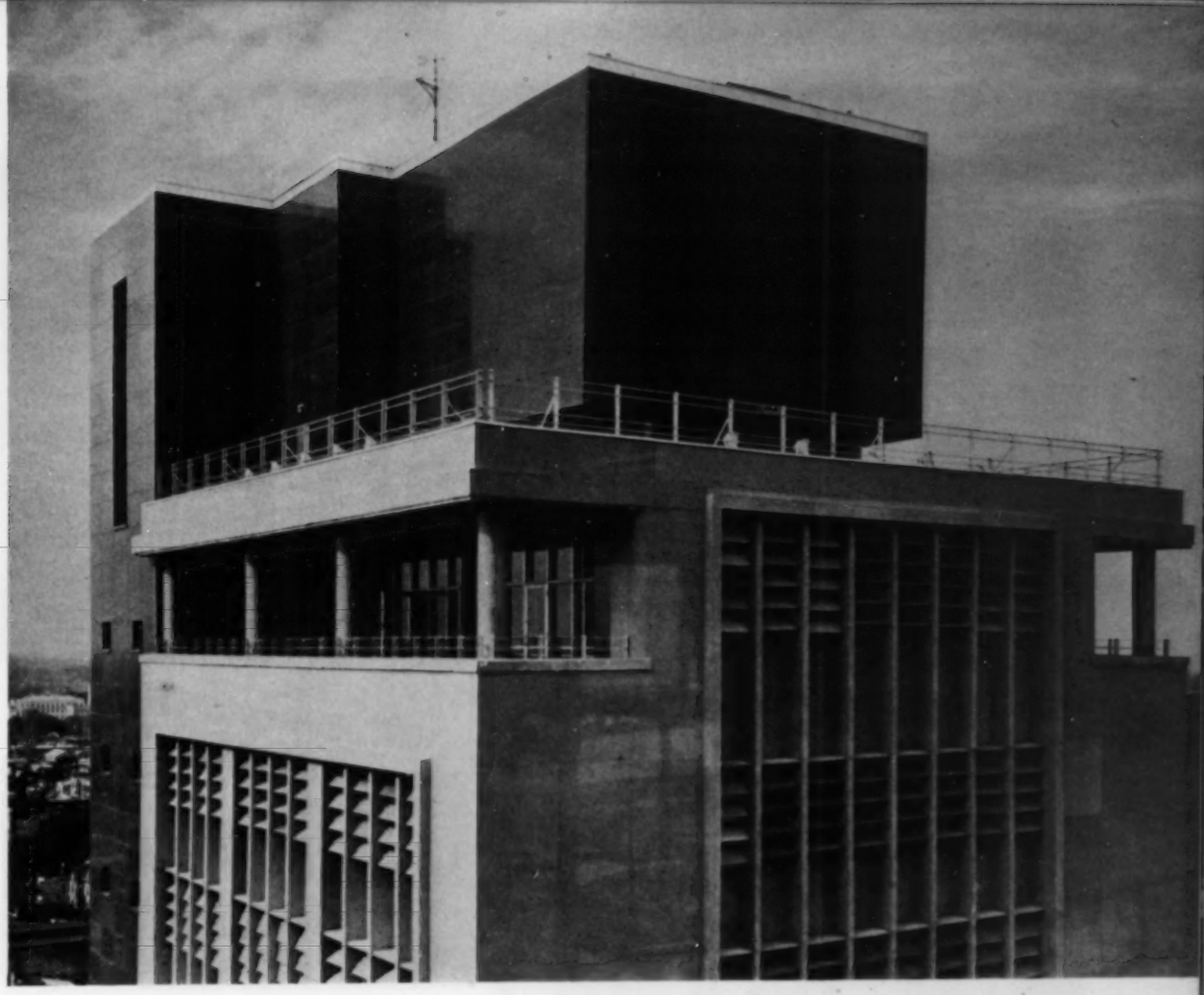


As the office building breaks farther away from the almost frozen pattern of the late Twenties, there is bound to be some fairly bold experimentation with "functionalism." Here the designers tackled with particular vigor the once-ignored problems of sun and heat in a very warm climate. Because they were limited to a restricted downtown site, there was no relief to be found in natural orientation (as in the case of the Caracas building, page 98). The west exposure, coming on a property-line, was the natural place to group elevators and services, thus avoiding heat on the worst exposure. But that left three sides exposed to the hot sun (the south side has a 36-ft. light-protection site; the north exposure gets sunlight in the late summer afternoons).

The architects adopted external controls for the sunlight, and went "all out" with them. All office windows are protected with vertical fins of stone to control rays from the side, and with external sunshades for the direct rays. On the south and east sides the shades are horizontal, and are movable through an arc of 180°. On the north side, the rays are all from the low afternoon or early morning sun, so here the shades are vertical and are fixed (they supplement at the center of the window the vertical stone fins). All windows are double-glazed with ¼-in. plate, with a ½-in. sealed air space between, for maximum insulation against heat (or cold). The architects report that these measures, while costly, saved many tons of refrigeration in the air conditioning system, and point to an operation saving continuing through the life of the building.

All shades (horizontal) in one window operate together, but each window has individual control. Normal position would be horizontal; on bright days shades would be turned down slightly until lighting desired was obtained. On dull days they would be turned up to gather all light possible and reflect it inward. No solar heat need be directed into the building, something which venetian blinds could not accomplish. The Universal Corporation assisted the architects in the design of external shades.

Flexibility in space was another principal objective. The whole building will be occupied by the Waterman

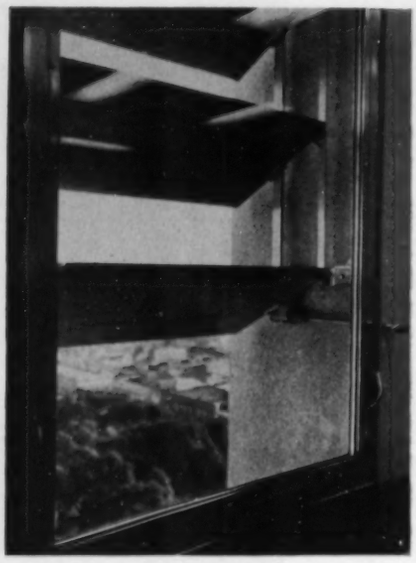


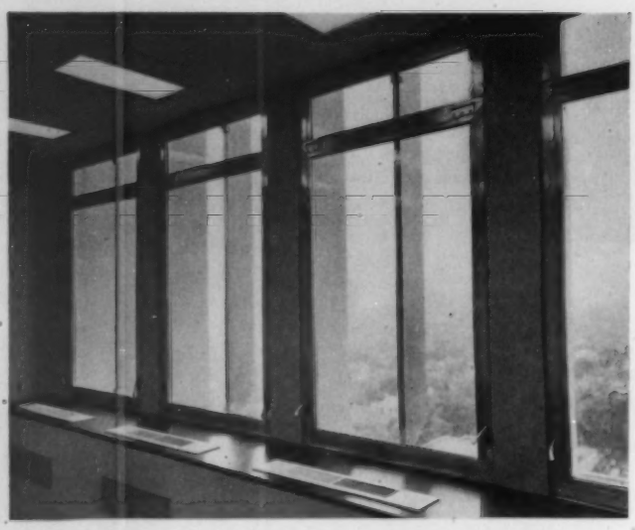
On three sides, north, south and east, all windows are shaded from the hot Alabama sun by projecting stone mullions (the west wall, on a property line, is blank). On the south and east sides (shown above) adjustable outside shades of lacquered aluminum provide the final control of sunshine. On the north side, there are vertical outside shades

Wm. Lavendar Photos

Steamship Corp., and heavy partitioning changes are anticipated. Also the limitations of the site did not give any natural flexibility to the floors. Air conditioning at the windows is by means of individual window units, for flexibility in control; interior zones are air conditioned by a conventional duct system through ceiling diffusers. Lighting and windows were designed on a 4-ft. module system, so that partitioning can be put at any mullion without disturbance to either natural or artificial lighting. And the steel cellular floor provided maximum flexibility for telephone and service wiring.

The entire building (except for the brick panels on the west side) is faced with architectural stone, using granite and silica for aggregate and matrix with white portland cement. The basic color is deep buff. Vertical mullions are coral in color and have a honed finish. The rear or service shaft on north and south is a combination of blacks, reds and browns with a high polish finish.

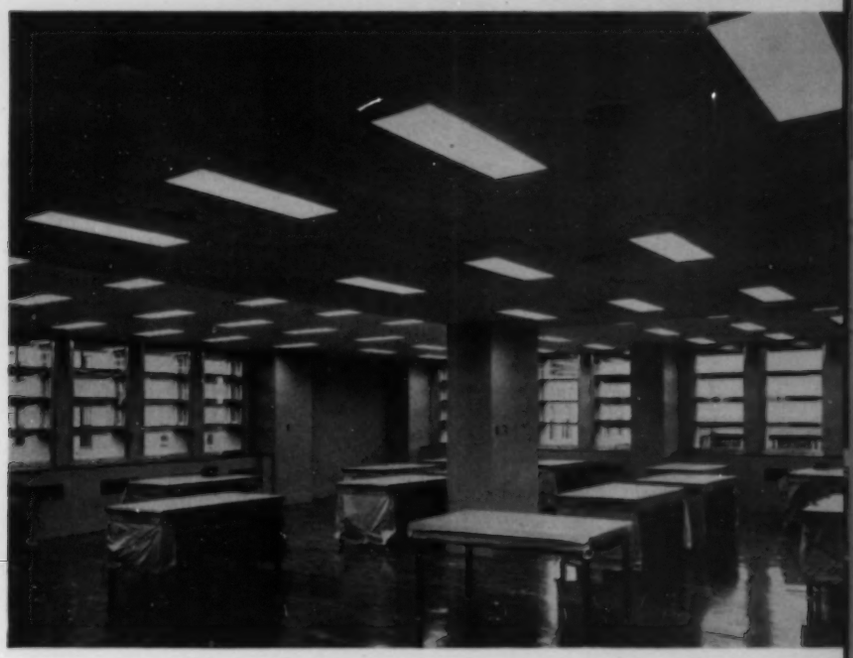


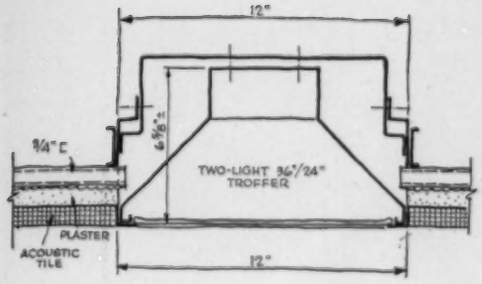


Sunshades on the north side (left) are fixed in vertical position half way between stone mullions — they protect against early morning and late afternoon sunlight. Horizontal shades (above) rotate through 180° — those for each window can be controlled separately, but all for that window are controlled in unison

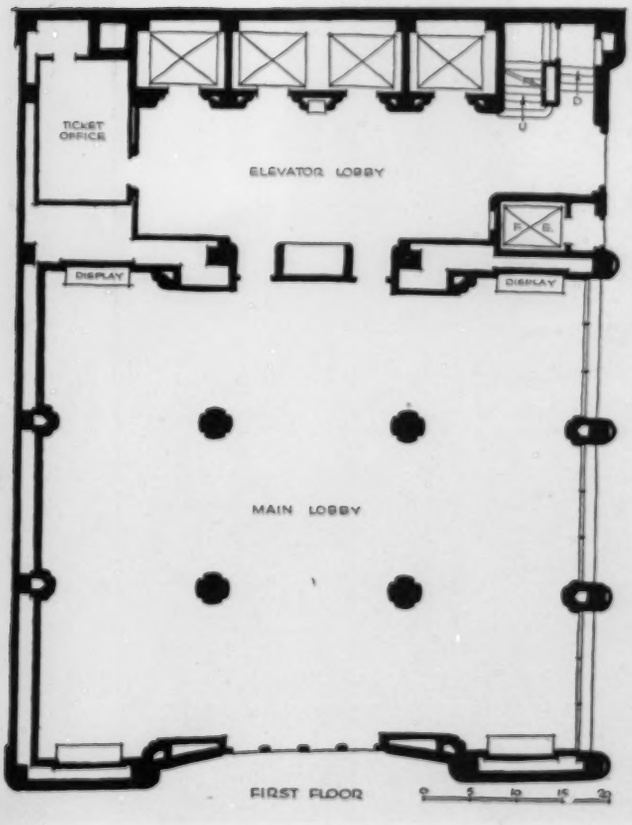
First floor elevator lobby has floor of pink marble, walls of Appalachian Fluri and Antique Rose marble. Ceiling is acoustic plaster

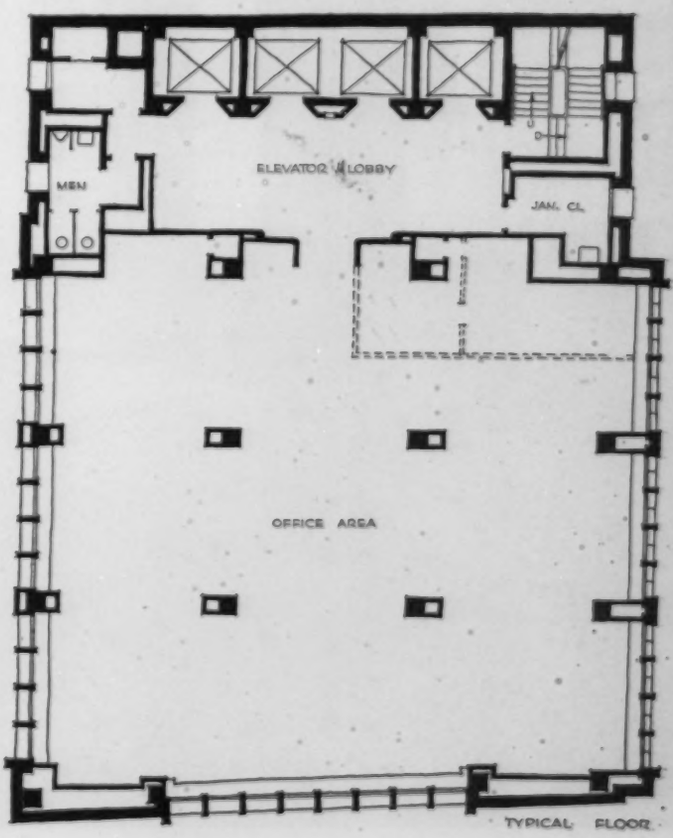
Wm. Lavendar Photos

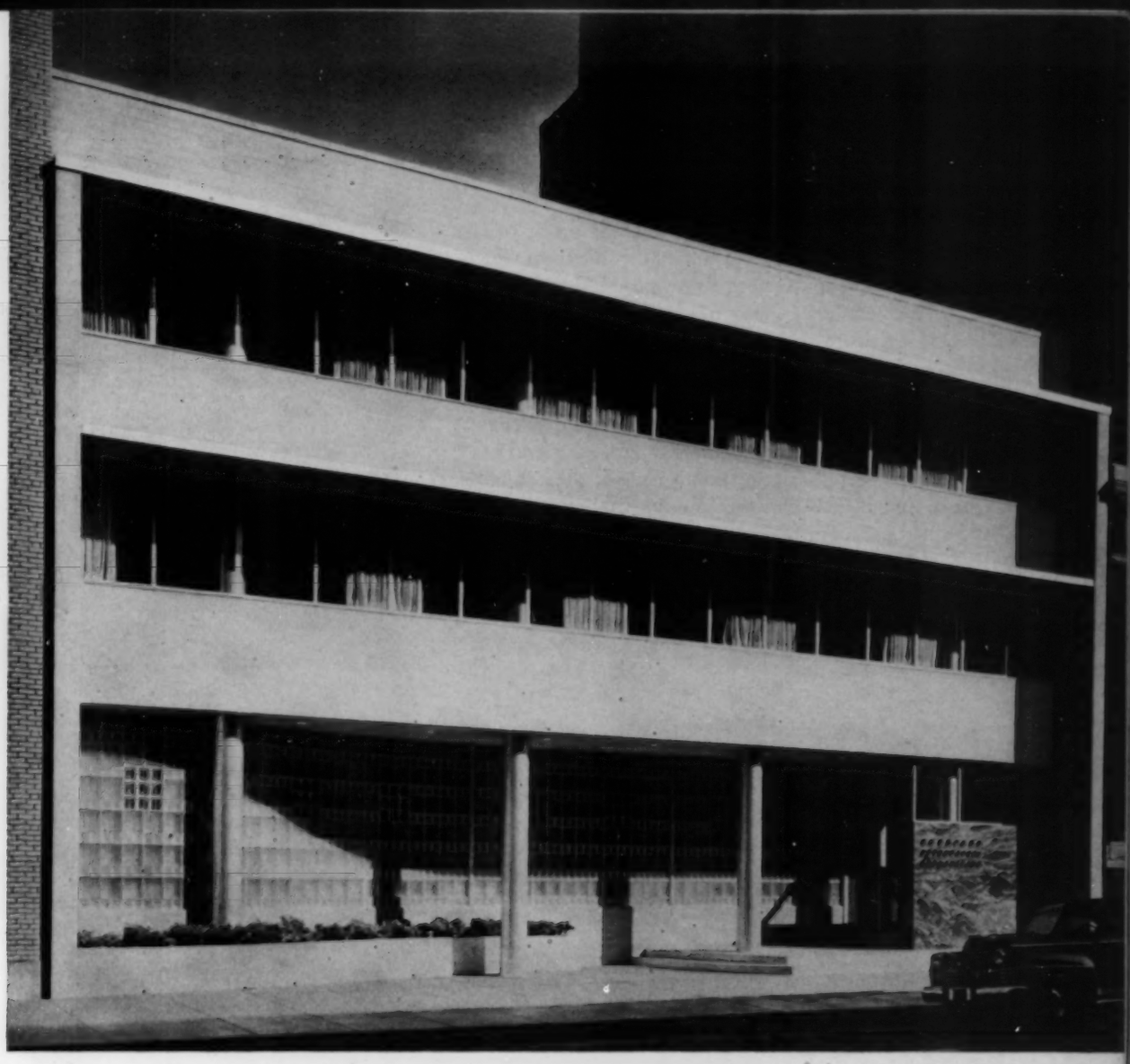




Besides the still unpacked new furniture shown, office space will have acoustic tile ceiling, with recessed fluorescent lighting, and a combination of individual and zone system air conditioning. Sub floor is cellular steel deck for flexibility in wiring. Everything is done on a 4-ft. module; partitioning can be installed at any mullion







Hedrich-Blessing Photos

SMALL OFFICE BUILDING, NEW APPROACH

American Osteopathic Association Building, Chicago ***Perkins & Will, Architects and Engineers***

If the office buildings of another generation seemed to ignore sunshine and solar heat as factors in design, the current generation seems to have exactly reversed the process of design. Today many façades take their form largely from various devices for controlling and utilizing sunlight.

This building, which faces south on an interior lot in the near North Side section of Chicago, is well surrounded by taller buildings. Its façade gets sun only in the warmer months. The architects sought the maximum utilization of the rather limited natural light with continuous windows, shading them with sun visors and drapes, and using glass which filters out much of the solar heat. In the main these same measures are useful in keeping winter heat inside, and the drapes are frequently useful in acoustic control.

The set-back of the façade is not explained, however, by these sun measures. The building is semi-commercial in character, being the home of a professional society, the American Osteopathic Association. The architects felt that a small set-back would imply this semi-commercial aspect, and would give the building some sense of reserve.

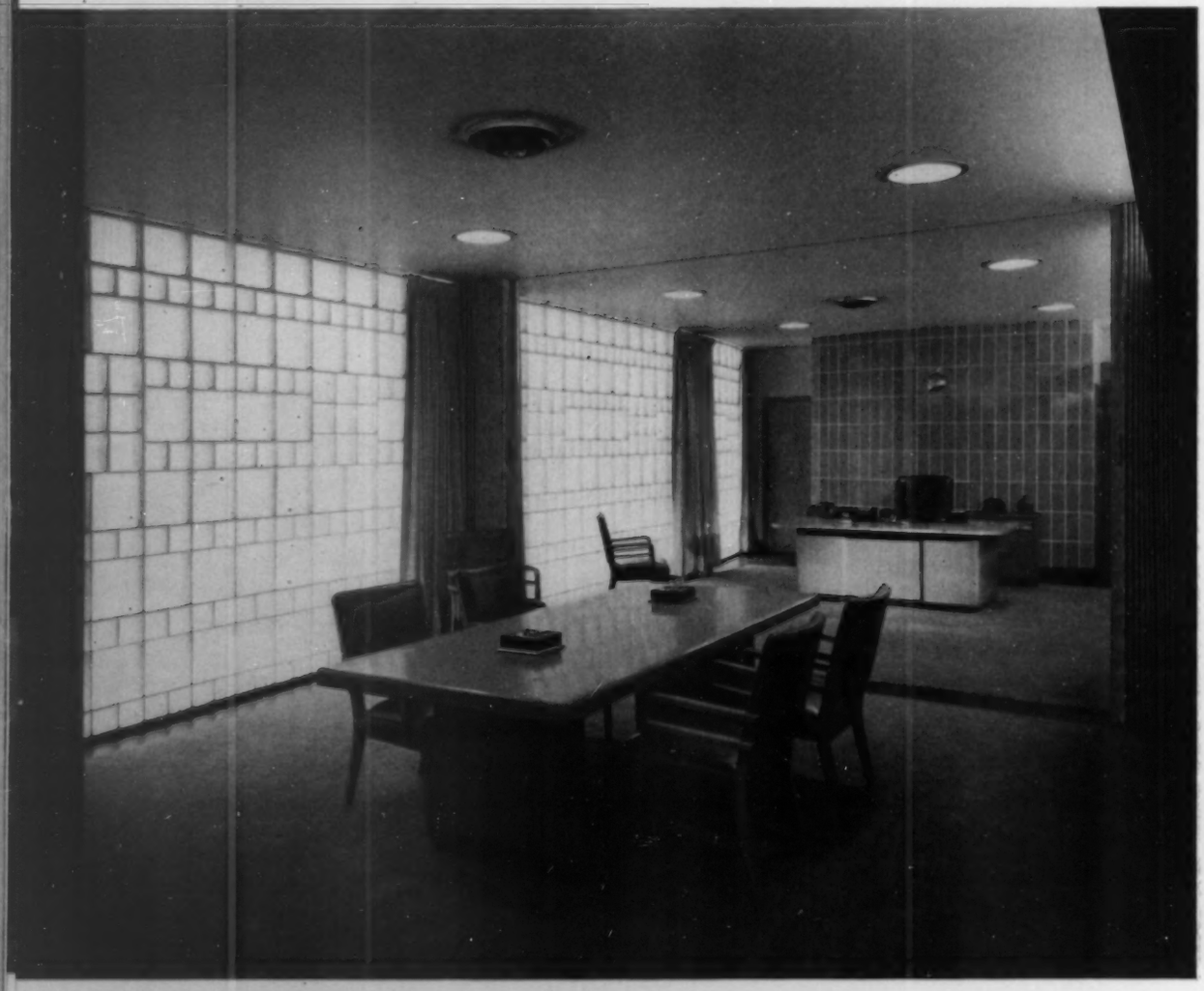
The set-back, coupled with the horizontality of the sun shades, serves also to frame the building and give it some distinction among its taller neighbors. Not being

able to compete in height, it asserts its own position with some emphasis.

The side-winding entrance is a natural result of its location, which is east of the principal traffic from which its visitors will come, Chicago's proposed "Magnificent Mile." The entrance opens naturally to approaching callers. Its visitors will not be the general public, but members of the professional association.

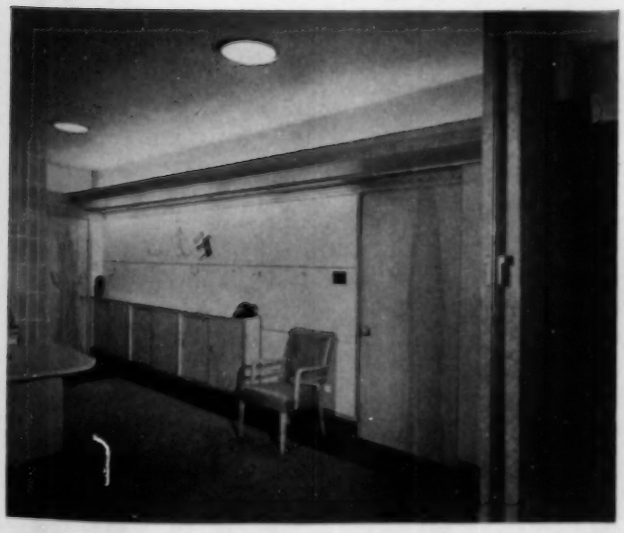
In color, the exterior is cool and fresh, the frame surrounding the building being of limestone, columns silver, terra cotta a soft grey green, and the glass the green heat absorbing plate. The large granite block marking the entrance and identifying the building is basically grey with some black and red markings.

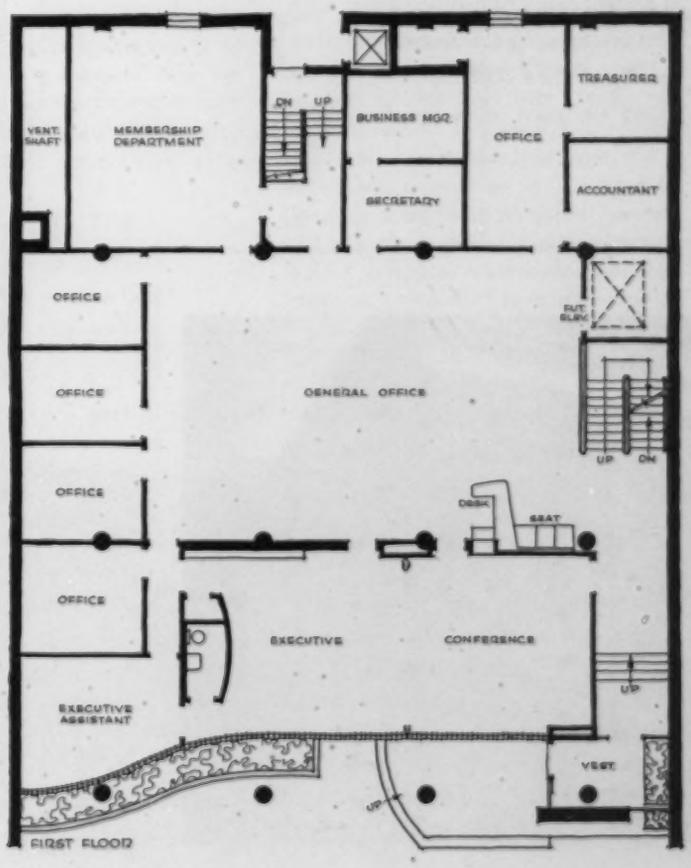
In the large executive-conference room, the front wall of glass block achieves an interesting textural pattern, as well as admitting maximum daylight while preserving the privacy of the room and shielding the occupants against both the noise and the distractions of the sidewalk just outside. Note the flexible partition



Hedrich-Blessing Photos

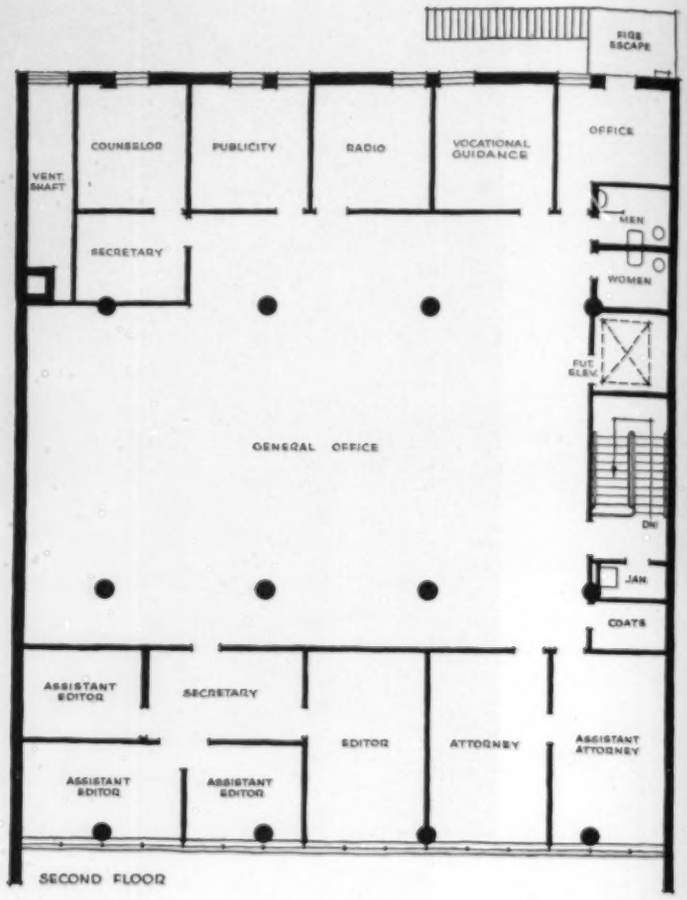
General office and reception room occupies the center of the first floor, and is made inviting and warm with light and color. One wall is painted rust, set off by grey on adjacent walls

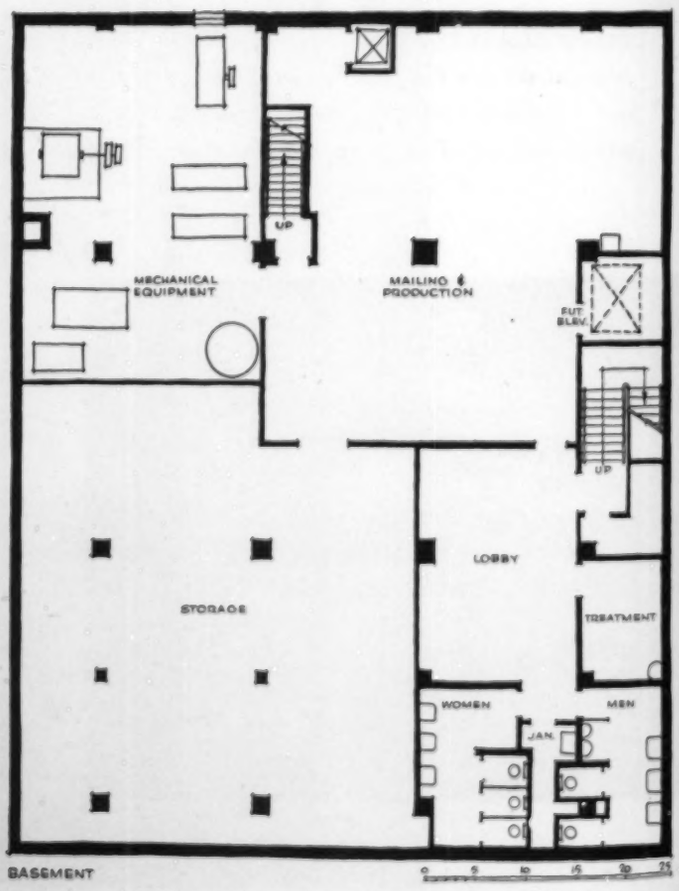




Hedrich-Blessing Photos

Private offices on second floor, front, have full width windows, acoustic ceiling, air conditioning. The drapes, which are beige with a small gay figure, are useful in controlling noise as well as daylight. At present only first two floors and basement are used for the Association office. There is a third floor, however, for expected expansion, now used for storage





PREFABRICATED FLOOR PANELS FOR LARGE BUILDINGS

G. Lorne Wiggs — *Wiggs, Walford, Frost & Lindsay, Consulting Engineers—Montreal, Canada*

In the present-day efforts to develop prefabricated and precast methods, it has seemed important that these be extended more fully to large buildings. A step we have taken in this direction is a prefabricated system of floor panels designed so that all structural materials "do work" and incorporating a number of mechanical and electrical services.

The K-W System (patents applied for) is the result of close cooperation between a structural engineer and the author, working to achieve the integration of several elements so that the system is more comprehensive than is usually associated with prefabrication in the small house field.

Each panel consists, first of all, of two or more open web (truss type) primary joists securely fastened together by means of open web secondary joists set at right angles to the primary joists so as to form a rigid structural steel framework or cage.

Radiant heating pipe coils and required electrical and mechanical services, having been previously prefabricated as sub-assemblies, are incorporated into the cage. Floor slab reinforcement and ceiling metal lath are then fastened to the framework. Finally, the concrete floor slab is poured, and the scratch coat of plaster is applied to the ceiling lath. The panels thus prefabricated are stored until they are ready to be placed in the building for which they were made.

Composite Steel-Concrete Construction

Composite steel-concrete construction, as used in the prefabricated panels, combines the outstanding advantages of structural steel and concrete. The design is such that the steel members provide a strong structural frame and carry all the tension and shear loads, while the compression loads are carried for the most part by the reinforced concrete.

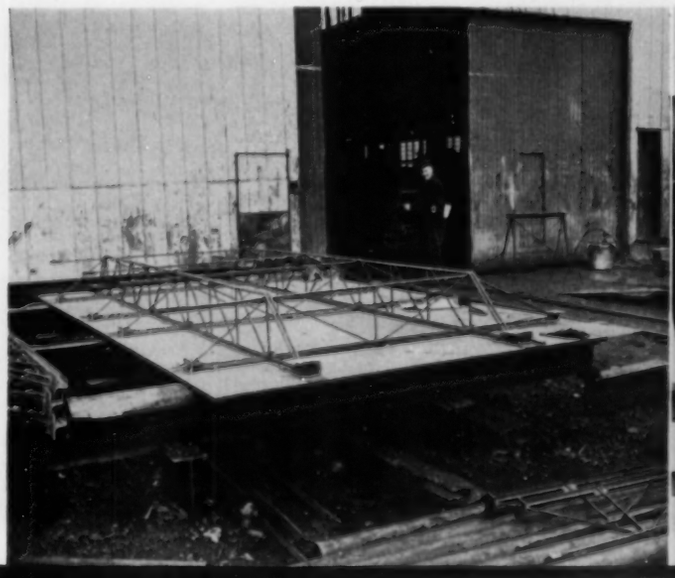
In conventional construction, open-web joists are usually installed parallel to each other and braced to the adjoining joists to provide the necessary lateral stability. And the reinforced concrete floor slabs usually rest on top of the bar joists and contribute nothing to the strength of the joists.

In the case of composite construction, however, the joists are designed so that they provide firm structural frames and so that their top chords will be embedded in reinforced concrete. The reinforced concrete then carries practically all the compression load on the joist, and at the same time changes the joist from an I-beam to a T-beam. The full tension load on the bottom chord is carried by the steel bars forming the bottom chords. Lateral stability is provided by having the joists run in two directions, as well as by enclosing the joist top chords with reinforced concrete.

Contrary to usual practice in reinforced concrete construction, no concrete is provided where it carries no load, except, of course where local regulations require the entire steel portions

Early step in fabricating floor panels is the assembly of steel joist framework on appropriate jigs (left). Panels having precast floor slab, ceiling plaster, and mechanical and electrical services integrated with framework are then installed in building bays (right)

1



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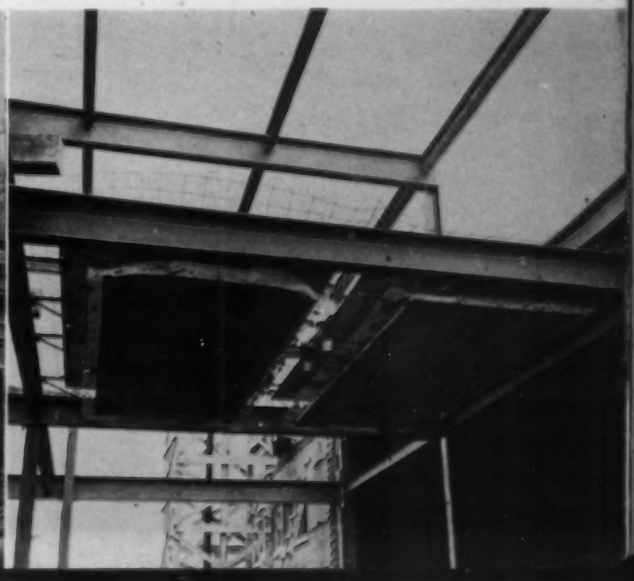
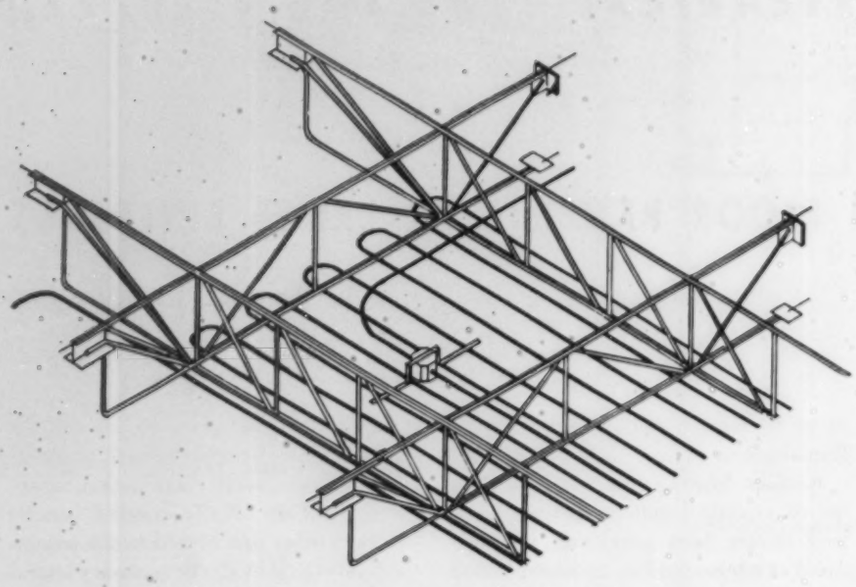




3

Ceiling radiant heating coils and electrical wiring are incorporated in joist frame

to be embedded in concrete or other fireproofing material.

Framework Details

In order to minimize development costs, particularly the initial cost of jigs and fixtures, it was decided to start with standard open web, bar joists modified to suit the panel system. Bar joists are made in many types, but the Ingalls joist, shown in Fig. 4, was adopted for convenience.

The primary joists are made in exactly the same form as regular joists except that the verticals are omitted at the points of intersection with the secondary joists (Fig. 4). The secondary joists are made up similarly to the primary joists, but with slightly less depth. The top chords of the secondary joists have to be broken at the points of intersection with the primary joists, although the bottom chords are continuous from end to end. The novel feature of the secondary joist is the detail at the points where it interconnects with the primary joists (Fig. 5). The web members can be either round or square rods welded into place.

When only one panel is required for a building bay, the secondary joists have bearing plates at both ends. Where two panels are required, one end of each secondary joist has a standard bearing plate while the other end has suitable connection plates for interconnecting the two panels in the same bay. Where three panels are required in a single bay, the center panel is made up with connection plates at both ends.

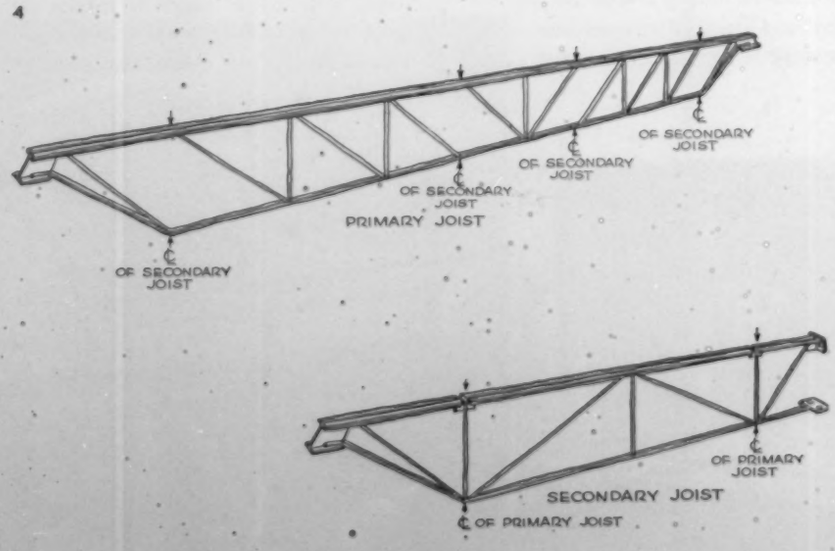
The connection plates welded to the top chords are designed to carry the shear and compression loads while the plates on the bottom chords are subject to tension loads entirely. In the field the connection plates between adjoining panels are bolted together.

Assembly of Cages

In constructing the panels, the joists are first assembled into cages by setting up the primary joists on an assembly jig, passing each secondary joist through the primary joists and finally locking the secondary joist in the correct position. After all the joists are checked for alignment, etc., they are welded together, making up rigid structural cages as shown in Fig. 1.

At this time also, the electoral and mechanical services are made up into sub-assemblies. For instance, the radiant heating pipe coils are formed on suitable benches given a hydrostatic test and then capped. The sub-assemblies

4



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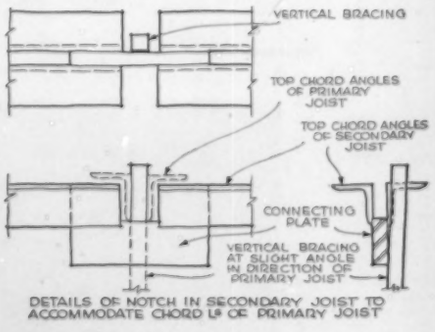

VERTICAL BRACING
TOP CHORD ANGLES OF PRIMARY JOIST
TOP CHORD ANGLES OF SECONDARY JOIST
CONNECTING PLATE
VERTICAL BRACING AT SLIGHT ANGLE IN DIRECTION OF PRIMARY JOIST
DETAILS OF NOTCH IN SECONDARY JOIST TO ACCOMMODATE CHORD Ls OF PRIMARY JOIST

Special notch feature (above) allows secondary joist to "lock" with primary joist when two-way joist framework is assembled

ADVANTAGES OF PREFABRICATED FLOOR PANELS

Efficient Use of Materials — The prefabricated floor panel system utilizes the reinforced concrete floor slab, not only as a floor slab and a fireproof deck, but also as portions of the compression members and bridging of the joists. When ceiling type radiant heating is incorporated in the panels, the pipe coils serve also to support the metal lath. Where floor type radiant heating is built into the panels, the pipe coils are utilized as part of the slab reinforcement.

Weight Saving — Due to the efficient use of steel and concrete, the panel system provides an appreciably lighter floor system than is available in other fire-resistant floor systems, and since its weight is distributed over the four supporting beams, smaller and much lighter supporting beams can be used than for ordinary one-way steel joist or steel sub-floor systems.

Faster Construction — Since the panels can be prefabricated at the same time that the structural steel frame of the building is being fabricated, and these panels can be scheduled to arrive at the building as they are required, buildings incorporating the panels can be erected much faster than those of conventional construction.

Elimination of Staging — By installing the prefabricated panels as the structural steel is being erected, the system dispenses with temporary wood plank flooring or staging for the protection of steel workers. In addition, the system provides, early in the construction period, both adequate working space and ample storage for all trades employed in building construction. The elimination of wood planking, floor shoring, etc. reduces the fire hazard.

Field Concrete and Plaster Work Reduced — Because the prefabricated "cages" have the greater portion of the concrete slabs poured and most of the plaster applied, the panel system reduces the amount of space required at the site for the storage, mixing and handling of concrete and plaster.

Provision for Concealment of Mechanical and Electrical Services — The panel system provides ample space for concealing all the electrical and mechanical work. When radiant heating is incorporated, the system not only conceals the coils, but it provides efficient, economical heating and enables temporary heat to be readily provided at no extra cost.

Better Construction Scheduling — The construction can be more readily scheduled, and the interdependence of the different trades is greatly reduced, greatly speeding up construction.

Reduction in On-Site Labor — The system greatly reduces on-site labor and replaces it with more efficient shop labor.

are incorporated into the cages in proper sequence. In Fig. 3 radiant heating and electric light outlet components are shown incorporated into the cage.

After all the required electrical and mechanical services have been incorporated in a cage, the slab reinforcement is wired to the top chords. The cage is then placed, floor side down, on appropriate forms and the precast concrete slab is poured. While the concrete is hardening, metal lath is securely wired to the pipe coils, and then the scratch coat of plaster is applied. After the concrete slab has "aged," the panel is lifted off the form and moved to suitable storage space until needed.

Installation of Panels

The panels are designed so that they can be prefabricated in a suitable plant or plants, transported to the building in which they are to be installed either by truck or by rail and hoisted into place by structural steel erectors.

After the panels have been set in place, bolted together and checked, the bearing plates at the ends of all joists are welded to the steel girders on which they rest.

At a convenient time, all the electrical and mechanical services on the panels are connected to those of the remainder of the building; fireproofing, if required, is placed or poured around the steel columns and girders; and the spaces between adjoining panels are filled with reinforced concrete. Finally, the cement finish is put on the precast slabs and the brown and white coats of plaster are trowelled onto the ceiling scratch coat, thus completing both the floor and ceiling with a minimum of on-the-site labor.

Application in Office Building

First application of the panel system was in a basementless two-story office building about 32 ft. wide and 93 ft. long. It is located 50 miles from Montreal and forms part of a large textile mill. The building has a structural steel frame, with six bays 15 ft. 6 in. by 17 ft. and six bays 15 ft. 6 in. by 15 ft. No panels are required in one of the latter bays which contains the stairway.

The first floor of the basementless

Panel being raised from curb form after precasting of floor slab. Note floor reinforcement, radiant heating coils and metal lath

building was constructed of reinforced concrete right on the grade. The second floor was originally designed to be of reinforced concrete slab and beam construction. In order to try out the prefabricated panel system, the owners of the building agreed to allow it to be used in place of the construction originally specified for the second floor, on condition that the proposed floor system should not cost any more than that originally specified.

Due to certain limitations imposed by the owners of the building, it was decided to heat the first story by means of ceiling type radiant heating and the second floor by floor type radiant heating. This necessitated embedding pipe coils both in the ceiling plaster and in the reinforced concrete floor slab.

The usual number of ceiling outlets for lighting the building had to be provided and an automatic sprinkler system was to be incorporated. In addition, the plumbing connections for two washrooms on the second floor had to be installed in the panels.

Since there was no organized firm to construct the complete panels, the order for the steel cages was placed with a firm of steel fabricators in Montreal, while the orders for the various electrical and mechanical services were placed with respective sub-contractors also in Montreal.

When all the cages were completed, they were loaded, five or six at a time, onto trucks and transported 50 miles to the building site.

At the site each cage was first inverted onto a suitable wooden form. The concrete floor slab was poured and then the metallic lath was wired to the ceiling coils and to the bottom chords of the joists. Fig. 6 shows a panel at this stage being lifted off the form as it is to be turned over. The panel was then lowered back onto the form, and a plaster base was poured onto the uppermost side of the metallic lath so as to embed the ceiling coils completely in the plaster.

When the general contractor was ready to install the panels, they were lifted, one at a time, by means of a caterpillar hoist and lowered into place on the structural steel frame of the building.

The installation of the first few panels took quite a time, but after some experience the crew was able to place quickly all the remaining panels. In the final stage, it took the crew less than 15 minutes to place each panel. Fig. 7 shows the whole floor in place.

After the panels were installed, the workmen connected the various electrical and mechanical services. When all the connections had been made, checked and tested, simple removable forms were placed under the open spaces in the floor slabs of the panels and these spaces were filled in with concrete (See Fig. 8). No fireproofing was poured around the steel girders.

When the concrete had set, the forms were removed, metal lath was placed over the ceiling spaces and the scratch coat of plaster was applied to the metal lath. A cement finish about 1 in. thick was applied to the concrete floor slab, except in the washrooms where a terrazzo cover was used, and plaster work was finished. This completed the work on the prefabricated floor section of the building.

After the partitions were put up, the interior finish and the painting completed, heat was turned on and the building occupied. It has been in use since the winter of 1947–48, and the electrical and mechanical services, particularly the radiant heating, have operated satisfactorily.

Conclusion

Use of the prefabricated panel system in the textile mill office demonstrated that it is practical and economical. No difficulty was experienced in making, handling or setting the panels in place, and all mechanical connections were made without trouble.

On completion of the building, and on making up the statement of its cost, it was found that the cost of the panel system was appreciably lower than that of the ordinary beam and slab construction. In making up such a small number of panels as were required on this building, the greatest economies were not realized, so that it is expected that in multi-story buildings in which a large number of identical units occur, much more substantial economies can be effected.

Installation in two-story office building uses 22 prefabricated panels (left). Open spaces between slabs are filled in after temporary forms have been placed (right)

SKYHOOKS RAISE ROOF, CUT COSTS

Youtz System Uses Monolithic Roof Slab, Raised by Hydraulic Jacks

By J. P. Allinson

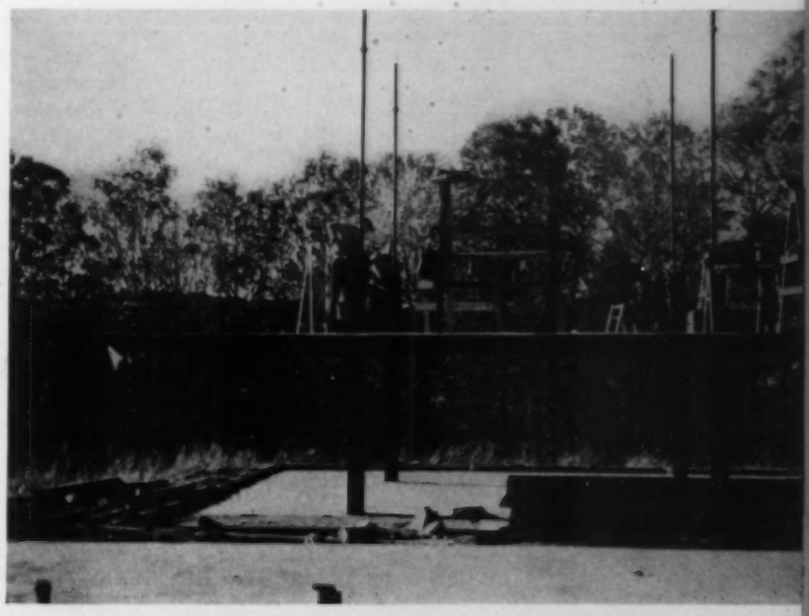
Of all of the many current schemes for pouring concrete slabs on the ground and hoisting them into position, one of the cleverest has been developed by Philip N. Youtz, Westchester, N. Y. architect. Designed to permit fast and economical construction of houses and other small buildings, his system (patents applied for) involves pouring a monolithic roof slab right on top of the floor slab, then raising it by means of small hydraulic jacks. The roof slab is in effect a huge collar around four steel columns; a hydraulic jack is placed atop each column; the slab is inched into position, bracketed in place, and sealed.

While a few wrinkles remain to be ironed out (especially in the extension of the system to larger buildings), the basic principles have been successfully demonstrated in a group of buildings for a camp owned by the Henry Street Settlement near Yorktown Heights, N. Y., and negotiations are under way with builders interested in using the new system for other projects.

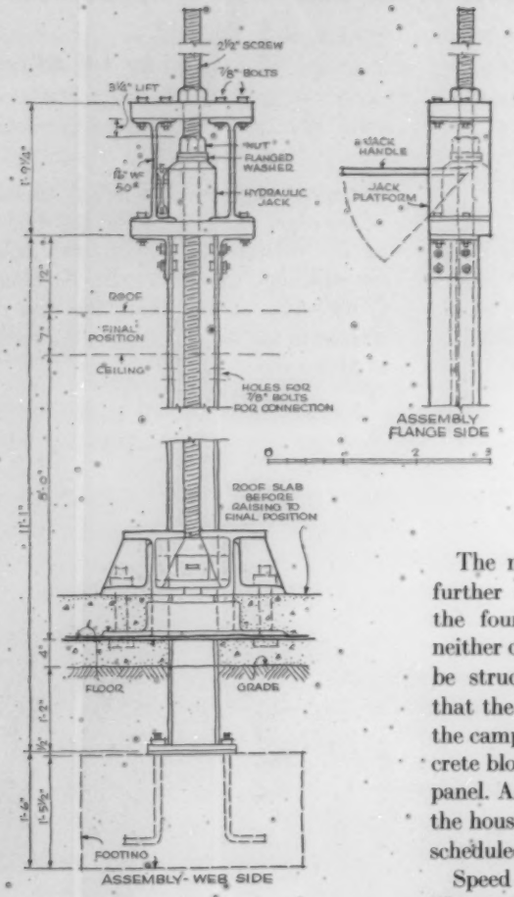
As Director of Technical Research for the War Production Board, Mr. Youtz had previously worked on a hundred other experimental houses, all in the effort to develop house technology for speedy and economical construction. Actually, however, this one is a fairly radical departure from any previous idea. Frederick N. Severud, structural engineer, designed the columns and reinforcing for the roof slabs. The column collar involved in the hoisting system was designed by Gustav G. Freygang of Fezandié, Freygang & Moser, of the Stevens Institute of Technology, who also developed the architect's idea of a "skyhook" into a practical device.

Many Economies Possible

The Youtz Skyhook System overcomes many of the costly items in slab construction. All casting is done on the site, materials being much easier to transport than slabs. It is done with virtually no form work — merely screeds at the edges of the slabs and the collars at the columns. The hydraulic jacks are small and easy to handle. No crane is necessary at any time; the cost of a crane in the New York area is figured at $160 a day.



Roof slab, poured directly on floor slab, has been raised into position by hydraulic jacks on the four steel columns. Lower view shows a building constructed for Henry Street Settlement camp at Yorktown Heights, N. Y., Philip N. Youtz, architect



The monolithic roof slab introduces further economies and efficiencies. As the four columns take all the load, neither outside walls nor partitions need be structural. They can be anything that the particular project indicates; in the camp building outside walls are concrete block, but they might be any light panel. And the roof slab quickly covers the house, so that various trades can be scheduled without worry about weather.

Speed is another major advantage. The roof slab can be poured 24 hours after the floor slab, and can be raised eight days thereafter. In a large building operation a 10-day cycle might be developed, so that concrete could be delivered in a continuous flow.

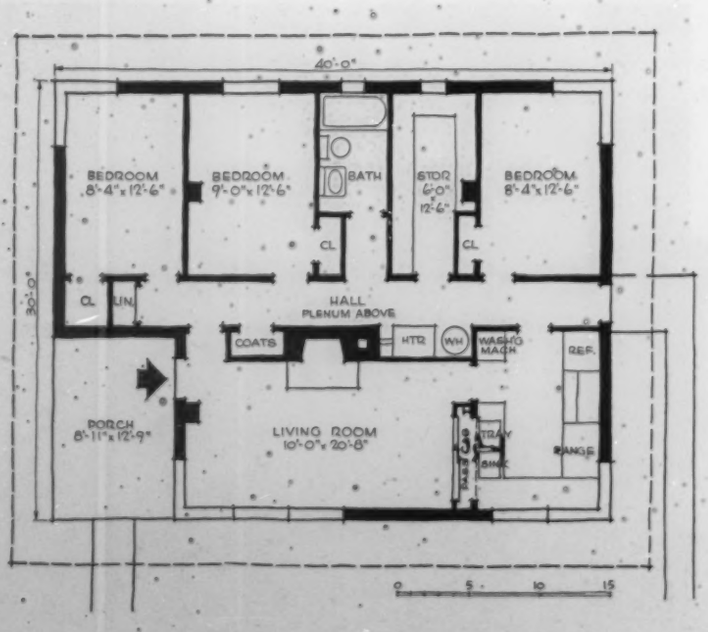
How it Works

The arrangement for lifting the roof slab is detailed at the left. Around each column there is a steel collar, which is a permanent part of the roof slab. Bolts extending upward from this collar attached to the lifting yoke (seen immediately above the roof slab in the drawing). The hydraulic jack is placed at the top of the column, in a small platform bolted to the column. The jack lifts upward in the space between upper and lower plates of this lifting platform, lifting against the lower nut on the screw shaft. At the limit of its movement this nut is against the upper plate. The upper nut is then screwed down against the upper plate, to take the load while the jack is lowered (some 3 in.) for another lift. Thus the slab is inched upward in hand-over-hand fashion. There are wedges in the lifting yoke which act as safety stops (like elevator safety devices) just in case anything slips during the lift. All four jacks are pumped in unison, the slab maintaining a horizontal position while rising.

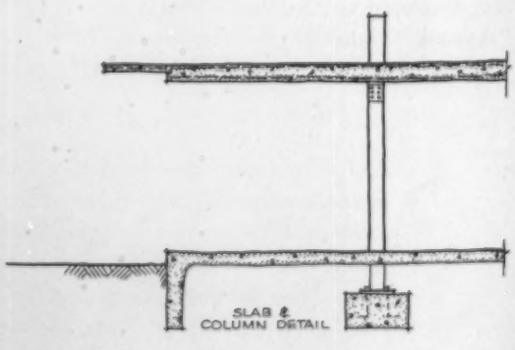
When the roof slab reaches position, the steel collar is attached to the column with brackets and bolts. Then the jack is removed. It is necessary then to burn off the extra length of column extending above the roof, and seal the opening.

In the normal operation, footings, apron and slab are poured without forms.

The apron at the edge of the slab



Youtz has worked out a series of floor plans for houses of various sizes, to show how the four columns might be absorbed with partitions or cabinets. Columns here are at quarter points in the rectangle; fifth points would give better economy



supports outside walls and serves as a dam against moisture; it is said that no cinder fill is required for the floor slab. The roof slab is poured on the floor slab, with a layer of building paper for a separator, and with all reinforcement, electrical conduit and so on in place before the pouring. The only form work required is an edging for the slab. The thin overhanging portion of the roof is formed by building up with earth around the heavier part of the slab, adding a new edging, and completing the pour to the new edge.

Adaptable to Large Buildings

While so far Mr. Youtz has used his system only for residential buildings, he says it could easily be developed for buildings of several stories. A succession of floor slabs might be poured on the ground, like a stack of pancakes, then raised by the usual hydraulic jack method. It would only be necessary to raise them one at a time, to some position higher than the second floor level, hold them there temporarily while that floor was positioned and secured. Then an additional length of column would be spliced on, and the lifting process repeated. The slabs would become flat-slab floor sections as the building went upward.

Costs

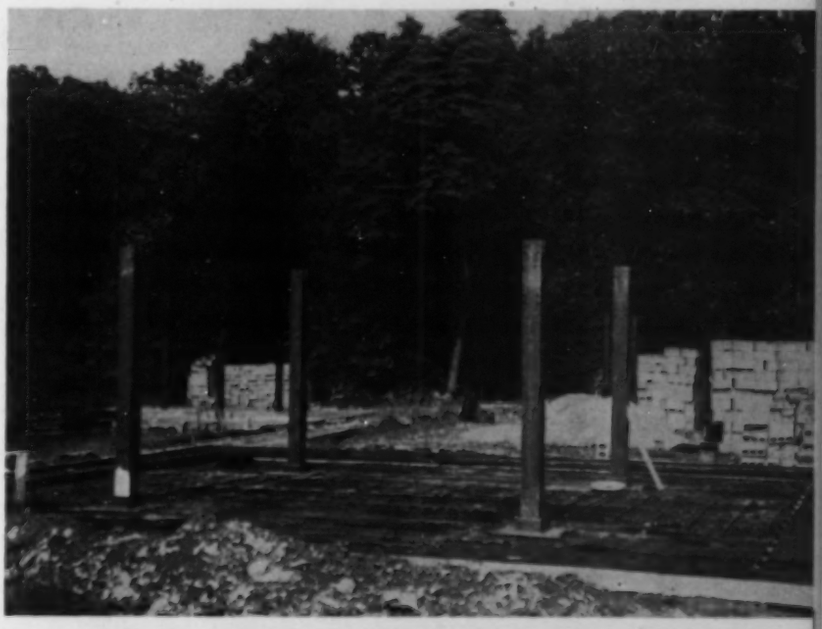
Mr. Youtz has estimated that his system might produce houses at costs 25 per cent under those of conventional construction. Since a statement like that is always difficult to prove, however, he has prepared a fairly close estimate of what it would cost to build a house in his locality, based on actual costs of similar items in the camp buildings he has already done (see table).

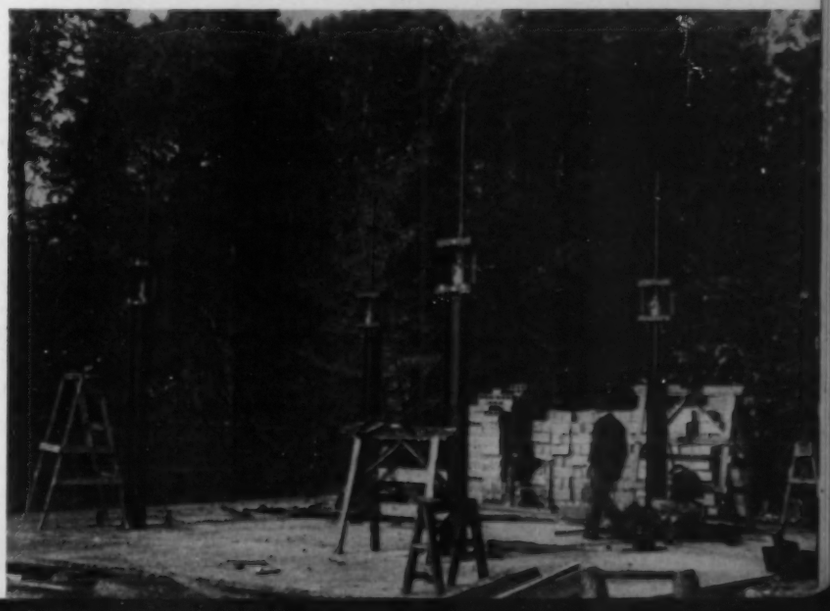
COST ESTIMATE

Youtz "Design for Living" House
Six rooms — 32 ft. by 32 ft. = 1024 sq. ft.

Note: The house is designed as a comfortable minimum priced home. It is fireproof and durable in construction. Floors and ceiling are smooth concrete. Walls and partitions are concrete block with pointed joints. All the concrete is tinted a soft red tone. Any standard interior finish may be added later. The cost figures include bathroom and kitchen plumbing and a space heater. They do not include the cost of the lot, financing, architect's fee, builder's profit, or insulation other than the celocrete blocks used for walls and partitions. Figures are based on the cost of three similar camp buildings now practically completed.

Building permit	$ 5.00
Grading site	50.00
Labor other than mason work	350.00
Reinforcing steel	333.33
Steel windows	168.32
Concrete	
Foundations	154.00
Floor	249.83
Roof	335.58
Screed lumber	66.00
Plumbing and Heating	972.00
Sand	10.66
Engineering	27.92
Rent on lifting equipment	500.00
Celocrete blocks for wall and partitions	506.33
Steel door bucks	75.00
Mason work	
Floor and roof	82.00
Block walls and partitions	509.00
Tar paper to separate slabs	25.23
Hardware	50.00
Precast sills	40.00
Electrical work	400.00
Paint and coloring for concrete	125.00
Glazing	50.00
Doors (7)	200.00
Mortar	50.00
Miscellaneous	100.00
	$5,435.00





Upper view: preparation for pouring of roof slab; collars are in place at base of columns, screed in place as edge form, reinforcing bars being laid. Lower view: roof slab has been poured, jacks are in place, men are attaching a lifting yoke

LIGHTWEIGHT, INSULATING TILE FORMS WAREHOUSE ROOF

A one-story warehouse with nine acres of floor space, nearing completion at Bloomfield, N. J., contains the first commercial installation of *Kaylo* roof tile, a new structurally-strong insulating material.

The building, designed to centralize storage and service facilities of L. Bamberger & Company, Newark, N. J. department store, is scheduled for use early in 1949. Its flat roof deck contains more than 394,000 sq. ft. of the incombustible tile covered with standard roofing materials.

The trapezoidal shaped building is of modular design, measuring 710 by 624 ft. in its longest dimensions. Construction is mainly of concrete and steel, covered with a flat roof deck of the insulating tile and a "skin" of standard roofing materials.

A 10-ft. aluminum band, extending 1000 ft. along two sides of the building, relieves the austerity of the poured concrete walls. Colored enamelled steel panels give additional trim to the front.

The aluminum, Fiberglas-insulated band, which forms the main portion of two walls, is made of panels 16 in. wide and 3 in. thick.

Eight-inch H-section columns, set 24 ft. apart on shallow-spread footings, provide structural support. Twelve-inch steel purlins frame into 16-in. girders in such a way that no coping was required.

Light steel members support the Kaylo tile deck. Hollow-box sub-purlins of 14-gauge steel are fillet-welded to the purlins. They are spaced 3 ft. apart to carry the tile which is factory finished to 18 by 35½ in. dimensions; their span is 8 ft.

The new roof tile is a white, cellular compound of calcium silicates. Produced in slabs 2⅝ in. thick, it weighs about 5 lb. per sq. ft., said to be less than half the weight of conventional roof tile.

The fireproof tile is structurally strong. In the warehouse roof it is designed to carry a load of 50 lb. per sq. ft. with an ultimate safety factor of 8.

Besides lightweight, incombustibility and insulating factors, the roof tile is reported to show advantages in installation speed. On the Bamberger job the roof deck was installed by an assembly-line technique.

From a new plant at South River, N. J., 20 miles away, the tile was trucked to the site as needed.

A crane fitted with a chain sling lifted the tile directly from the trucks to the roof. From this point the deck material was distributed to work areas by wheelbarrow.

From the point of delivery on the roof through the laying operation, the tile was handled by common labor. Organized masons performed the job of grouting the tile joints.

A standard mix of gauging plaster, expanded vermiculite and water formed the grout which bonds the tile joints. The grout was merely poured into the abutting joints with a spouted pail. Only joints resting on steel supports were grouted.

Following closely behind the masons, roofing workers spot-mopped each tile with pitch and covered the deck with a *Barrett* 20-year bonded roof. This covering is built up of roofing felt, pitch and gravel.

The roof deck adds a dead load above the main purlins of only about 10 lb. per sq. ft. This is said to compare with an average of 20 lb. per sq. ft. for roofs of other fireproof materials.

A series of sawtooth skylights, 7 ft. high, forms the only breaks in the deck. They are constructed of structural steel and covered with the same tile and roofing as the deck. Because Kaylo tile can be sawed and worked with ordinary tools, fitting odd shapes and sizes around the skylights posed no problem.

Another construction economy was achieved by leaving the underside of the roof deck and steel work untreated, since the white surface of the tile reflects light.

Factors involved in selection of roof tile for the warehouse included cost installed, amortization, heat loss and maintenance.

Abbott, Merkt & Co. were the architect-engineering firm on the project. Ebasco Services, Inc. were consulting engineers.

American Structural Products Co., Toledo 1, Ohio.

Left: lightweight, insulating roof tile is transported to work areas by wheelbarrow and then laid over structural steel members. Below: joints are grouted with mix of gauging plaster, vermiculite and water

CONVERTIBLE FURNITURE DESIGNED HOTEL ROOMS

Introduced at the 33rd National Hotel Exposition in New York was the *Convertible Hotel Room* designed by Knoll Associates Planning unit to incorporate a living room, bedroom and workroom in the same space.

Furnishings of the "room" feature versatility, practicability and attractiveness. The sofa, which is readily convertible into a single bed by adjustment of a simple swing back, has sitting room for three persons. The box spring, on which a foam rubber mattress rests, stands on 6-in. legs to give a sense of lightness to a furniture piece which sometimes looks cumbersome.

The chest of drawers arrangement combines the features of convertible convenience with decorative quality. The three sections of this piece include two three-drawer chests and a leather-laced luggage rack, with back to prevent the wall from being scratched. Hardware on the chests is eliminated by the use of louvered drawer fronts. In each chest the top drawer is lined with Formica. In one drawer the front is hinged, opening out to form a desk. The other has a lid hinged at the back which, when opened, provides the back of a bar arrangement or additional desk space (on the Formica side). When the lid is pivoted, a mirror converts the chest into a dressing table.

On an arm chair the upholstery is applied with snap fasteners for quick removal when cleaning is necessary. A straight, small arm chair is suitable for use at the desk or as an occasional chair. The moulded plywood seat and back of this chair, covered in foam rubber, are readily removable for renovation.

A coffee table and bed table are surfaced with cigarette-proof Formica. Glass covers the tops of the chests.

All upholstery and curtain materials are designed for dry-cleaning and fire resistance. In the upholstery materials, high tensile strength is provided by Fiberglas yarn, abrasive resistance by vinyl plastic covering of the yarn. Mohair and wool give texture and color. The curtain fabric combines Fiberglas yarn and wool fiber for dimensional stability and for resistance to sunlight.

Left: Knoll-designed Convertible Hotel Room arranged as a "living room." Right: luggage rack and chest of drawers, with one drawer, Formica lined, opened to form desk

The Convertible Hotel Room was sponsored by Marshall Field & Co., Contract Division, and was designed by Knoll Associates, Inc., 601 Madison Ave., New York, N. Y.

GUN TOOL SHOOTS STUDS INTO CONCRETE, METAL

Through the development of a powder-actuated tool, metal studs can now be driven through wood joists into concrete in only a few seconds.

Operating with blank cartridges, the tool can drive studs of various lengths and diameters of ⅜ or ¼ in. into concrete or metal. It weighs less than 5 lbs. and has interchangeable barrels to take care of the two different stud diameters.

The manufacturer claims that every conceivable precaution is incorporated in the tool to minimize hazards. Possibility of accidental discharge is said to be negligible because the firing pin is not in position to contact the cartridge primer unless the operator rotates a spring-loaded safety arm and holds it in

(*Continued on page 148*)

Gun tool fastens nailing strips to concrete ceilings with metal studs. Tool is "fired" only when spring-loaded safety arm is held in position and tool is pushed against wood

MANUFACTURERS' LITERATURE

Industrial Finishes

Rust-Oleum Stops and Prevents Rust. A comprehensive bulletin on industrial paints and such allied products as sealers and thinning oils.

Descriptions, applications, resistant qualities, drying time, type of thinner to be used and color swatches are included for industrial coatings such as: long oil type for exterior structural steel in ordinary atmosphere; short oil type for exterior steel subjected to special conditions such as salt spray, abrasion, fumes, etc.; heat resistant coatings; chemical resistant coatings; machinery and implement finishes. Floor coatings are also shown and described.

The bulletin concludes with instructions for mixing Rust-Oleum and surface preparation. 16 pp., illus. Rust-Oleum Corp., Evanston, Ill.

Air Conditioning

Application and Installation Data on UniTrane (Bulletin DS-420). Describes operating features and applications of a system of unit air conditioning which is said to combine the best features of the unit system and of the central system in a compact under-window unit. Special features such as a new *Moisture Controller*, which regulates moisture content of room air, are explained. Engineering data and architectural specifications are included. 32 pp., illus. The Trane Co., La Crosse, Wis.

Ink Renderings

Techniques. This is the fifth edition of Higgins' popular book showing various types of art work done with black and colored drawing inks. The new edition contains both new illustrations and text material. Besides covering elements of ink rendering in its various phases, the book includes outstanding work of many professional artists. 48 pp., illus. Higgins Ink Co., Inc., 271 Ninth St., Brooklyn 15, N. Y. $1.00.

Lighting

American Standard Practice for School Lighting, 1948 Edition. Authoritative guide providing specific recommendations for the many features of a classroom which constitute the visual environment for the students. It is being published under the auspices of the American Standards Ass'n. with the Illuminating Engineering Society and the American Institute of Architects as co-sponsors.

Specifications as to maximum fixture brightness and limiting brightness ratios, in addition to foot-candle tables, are set forth for comfortable, easy seeing. Recommended reflection values for desks, floors, wall and ceiling are given which, with good light distribution, will assure properly balanced brightnesses between these areas. Illumination results to be expected from many installations employing both incandescent and fluorescent sources are indicated.

The control and use of natural lighting is discussed using maps and charts to show the amount of sunlight to be expected during the school year in various parts of the country.

The appendix stresses the importance of adequate wiring and suggests proper wire sizes for typical conditions. Illuminating Engineering Society, 51 Madison Ave., New York 10, N. Y. *50 cents.*

Plastics

Plexiglas for Store Modernization. Pictures many interesting applications of the acrylic plastic, *Plexiglas*, by store architects and display directors throughout the country. Shown in various uses are flat, corrugated and patterned sheets.

Typical installations shown include: showcases, partitions, staircase balustrades, lighting fixtures, façades, etc. 16 pp., illus. Plastics Dept., Rohm & Haas Co., Philadelphia 5, Pa.*

Boilers

H. B. Smith Sectional Tubular Cast Iron Boilers. A complete condensed catalog of Smith boilers for industrial, commercial and home heating. Included in this catalog for the first time is data on the Smith-Mills *Reliance* boiler, a new combination oil burning boiler with a grate for emergency coal firing.

Information is also included on fin-type radiators for commercial installations and baseboard convector units for residences. 16 pp., illus. The H. B. Smith Co., Inc., Westfield, Mass.*

Architectural Aluminum

Architectural Aluminum Products (Catalog No. 48). A wide variety of *Alcoa* aluminum shapes are shown including the common ones such as channels, bars, and extruded mouldings as well as ornamental aluminum castings designed for railings and trellis. Dimensioned drawings are given. 34 pp., illus. J. G. Braun Co., 609–615 S. Paulina St., Chicago 12, Ill.

Steel Piling

Foster's Light-Weight Steel Sheet Piling (Folder F-110 A). Brochure contains five different cross-sectional views, with dimensions, of light-weight, interlocking, corrugated, sheet steel piling. A physical characteristics chart, discussion of the economies and advantages of using this type piling and 23 suggested applications are also included. 6 pp., illus. L. B. Foster Co., New York 7, N. Y.; Pittsburgh 30, Pa.; Chicago 4, Ill.; Houston 2, Texas; San Francisco 4, Calif.

Asphalt Tile

Today's Standard for Floor Quality. Booklet shows many design possibilities in the use of *KenTile* asphalt flooring for home, commercial and industrial use. Colors available are shown including both plain and marbleized shades. The booklet also contains information on special items such as grease-proof tile, and decorative, number and letter inserts. 16 pp., illus., David E. Kennedy, Inc., 58 Second Ave., Brooklyn 15, N. Y.*

Glass Blocks

Make the Most of Daylight with PC Functional Glass Blocks. Booklet describes in detail the proper selection of glass block and its usage for light direction and diffusion. Featured is a nomograph for estimating illumination levels when using glass block.

Topics covered include controlling daylight with glass blocks; how to select the right patterns for various daylighting needs; and technical data on light transmittance and distribution, thermal and sound insulation.

A picture section illustrates typical installations. 16 pp., illus. Pittsburgh Corning Corp., 632 Duquesne Way, Pittsburgh, Pa.*

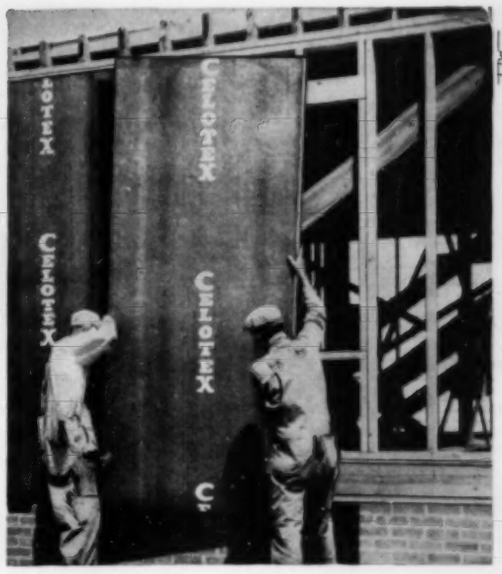
Furniture

Library Furniture (Bulletin No. L-10). A new line of unit-type library furniture suitable for school, community and in-

(Continued on page 162)

* Other product information in Sweet's File, 1948.

A STANDARD FOR GOOD WALL CONSTRUCTION



CELOTEX SHEATHING **PLUS** **CELOTEX INSULATING LATH**

When you specify asphalt-coated Celotex Sheathing in combination with Celotex Insulating Lath for residential walls *they provide sound, economical construction . . .* and provide these advantages:

- 40% MORE INSULATION VALUE than conventional uninsulated wall construction.
- GREATER BRACING STRENGTH with Celotex 25/32" Sheathing than with conventional sheathing material.
- NO LATH MARKS because Celotex Lath provides a continuous plaster base . . . and a plaster bond that withstands an average perpendicular pull of 930 lbs. per square foot!
- PROTECTION AGAINST DRY ROT and termites through the patented Ferox-treatment of Celotex Sheathing and Celotex Insulating Lath.

See Sweet's File, Section 10 for details on these two products.

THE CELOTEX CORPORATION,
CHICAGO 3, ILLINOIS

CELO, CEMESTO, and FLEXCELL are TRADEMARKS, REG. U.S. PAT. OFF.

CELOTEX
THE GREATEST NAME IN INSULATION

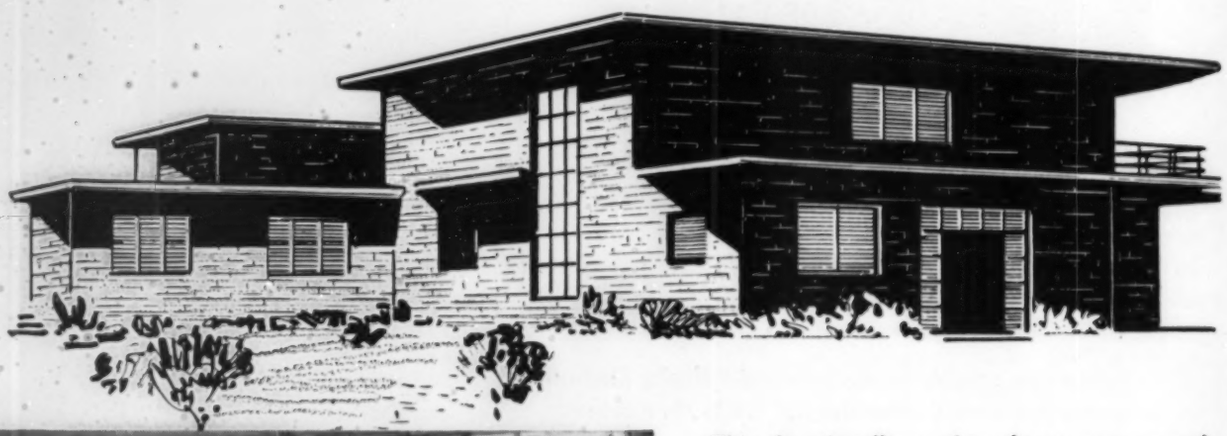
CELOTEX TRIPLE SEALED ASPHALT SHINGLES AND ROLL ROOFING
...BUILDING BOARD...CELO-ROK ANCHOR LATH AND PLASTER...CELO-ROK
WALLBOARD...INTERIOR FINISH PRODUCTS...CEMESTO...FLEXCELL...ROCK WOOL...CELO-SIDING...CELO-BRIC...CELO-STONE...CELO-SHINGLE...CELO-BLOCK

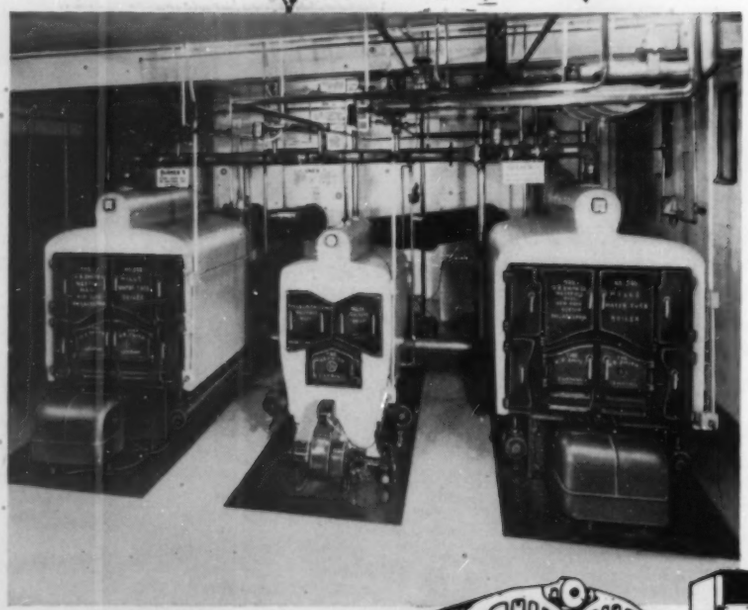
What boiler would you recommend for a $350,000 home?

The finest, of course. That's what the architect, engineer, and contractor did when they built this magnificent home. In fact, they chose *six* H. B. Smith boilers — two to heat the main house, by radiant heat and by air conditioning . . . one to supply domestic hot water . . . two to warm the swimming pool water and recirculate it . . . still another to supply domestic hot water and car-washing water to the garage.

No matter the size of the home your client wishes, you can recommend an H. B. Smith boiler that will give him "luxury" heating at bargain basement prices—for Smith-Mills boilers are designed and engineered to deliver maximum heat at lowest cost. True, they cost a little more to buy, but smaller fuel and maintenance bills more than make up the difference.

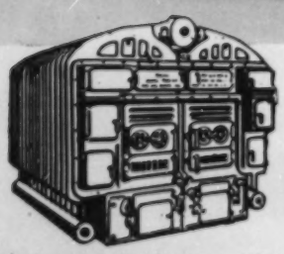
Which boiler will you specify on the next job where the best in residential, industrial, institutional or commercial heating is requested? You can't go wrong if you recommend H. B. Smith!

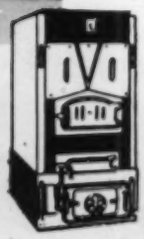




This functionally modern home was recently built in Bloomsburg, Pa., by Harry L. Magee, president of The Magee Carpet Company; it is one of Pennsylvania's finest show places. Berninger, Haag, and D'Entremont, Architects; George A. Heath, Heating Engineer; Wm. L. Coombs, Heating Contractor; Percy Swank, Building Contractor.

Largest boiler room in the Magee residence (there are several others!) includes two No. 340 oil-fired boilers and one No. 24 Hy-Test oil-fired hot water supply unit, all H. B. Smith products.





H. B. Smith

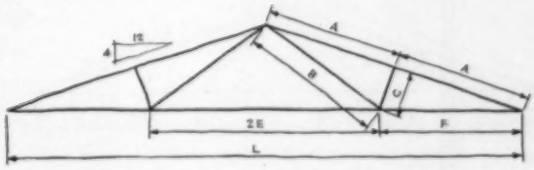
CAST-IRON BOILERS

THE H. B. SMITH CO., INC., 62 Main Street, Westfield, Mass. • OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES

ROOF TRUSSES FOR SMALL HOUSES—for Dry Wall Construction

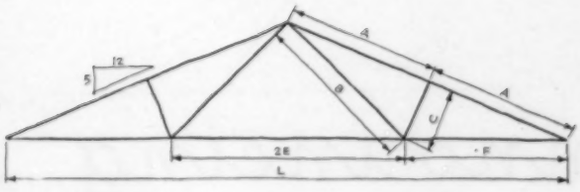
(Continued on page 131)

By Timber Engineering Company

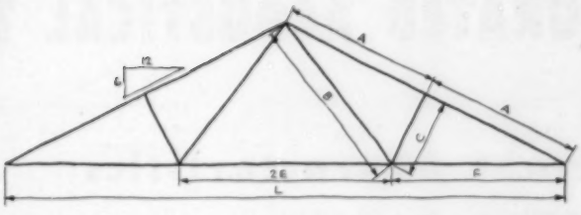


DIMENSIONS

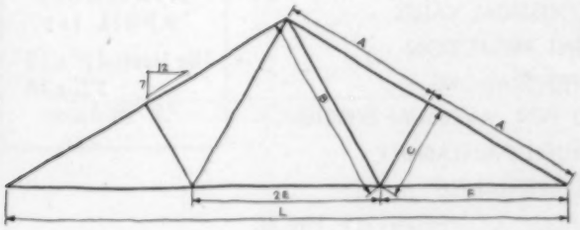
SPAN LENGTH	A	B	C	E	F
20′	5′– 3¾″	5′– 6¹¹⁄₁₆″	1′– 9⅛″	4′– 5⅜″	5′– 8¹¹⁄₁₆″
22′	5′– 9⅞″	6′– 1⅝″	1′–11⅜″	4′–10¹¹⁄₁₆″	6′– 1⅝″
24′	6′– 3⅞″	6′– 8″	2′– 1⅝″	5′– 4″	6′– 8″
26′	6′–10⅜″	7′– 2¹¹⁄₁₆″	2′– 3⅜″	5′– 9⅛″	7′– 2¹¹⁄₁₆″
28′	7′– 4⅞″	7′– 9⅝″	2′– 5½″	6′– 2¹¹⁄₁₆″	7′– 9⅝″
30′	7′–10⅜″	8′– 4″	2′– 7⅝″	6′– 8″	8′– 4″
32′	8′– 5⅜″	8′–10¹¹⁄₁₆″	2′– 9¾″	7′– 1⅝″	8′–10¹¹⁄₁₆″



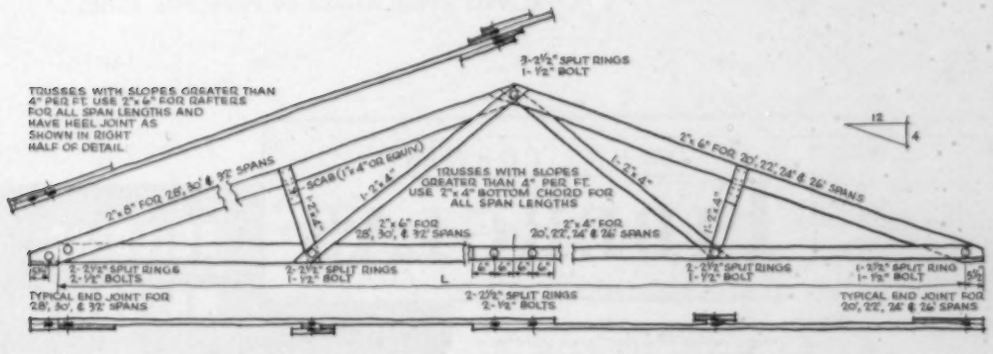
SPAN LENGTH	A	B	C	E	F
20′	5′–5″	5′–10⅞″	2′– 3⅛″	4′– 1⅝″	5′–10⅞″
22′	5′–11½″	6′– 5⅞″	2′– 5⅜″	4′– 6⅝″	6′– 5⅞″
24′	6′– 6″	7′– 0½″	2′– 8½″	4′–11½″	7′– 0½″
26′	7′– 0½″	7′– 7⅛″	2′–11⅜″	5′– 4⅞″	7′– 7⅛″
28′	7′– 7″	8′– 2⅛″	3′– 1⅝″	5′– 9⅞″	8′– 2⅛″
30′	8′– 1½″	8′– 9⅛″	3′– 4⅛″	6′– 2⅛″	8′– 9⅛″
32′	8′– 8″	9′– 4¹¹⁄₁₆″	3′– 7⅝″	6′– 7⅝″	9′– 4¹¹⁄₁₆″

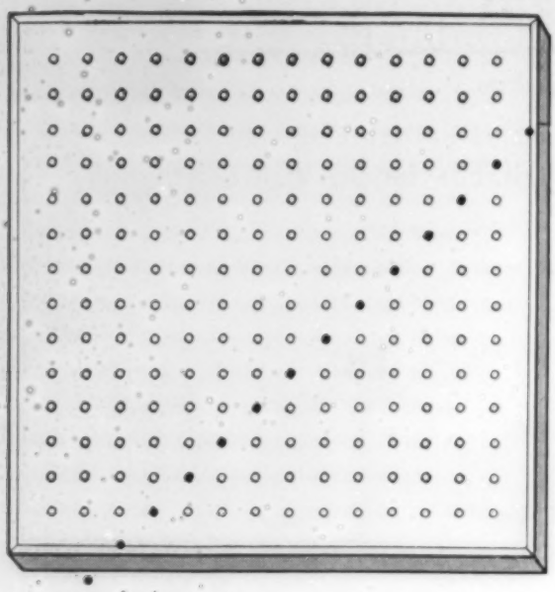


SPAN LENGTH	A	B	C	E	F
20′	5′– 7⅛″	6′– 3″	2′– 9½″	3′– 9″	6′– 3″
22′	6′– 1¹³⁄₁₆″	6′–10½″	3′– 0⅛″	4′– 1½″	6′–10½″
24′	6′– 8½″	7′– 6″	3′– 4¼″	4′– 6″	7′– 6″
26′	7′– 3⅛″	8′– 1½″	3′– 7⅝″	4′–10½″	8′– 1½″
28′	7′– 9¹³⁄₁₆″	8′– 9″	3′–10¹³⁄₁₆″	5′– 3″	8′– 9″
30′	8′– 4⅜″	9′– 4½″	4′– 2⅝″	5′– 7½″	9′– 4½″
32′	8′–11¹³⁄₁₆″	10′–10″	4′– 5¹¹⁄₁₆″	6′– 0″	10′– 0″



SPAN LENGTH	A	B	C	E	F
20′	5′– 9⅞″	6′–8⅞″	3′–4½″	3′– 3⅛″	6′–8⅞″
22′	6′– 4⅞″	7′–4⅞″	3′–8⅝″	3′– 7⅝″	7′–4⅞″
24′	6′–11¾″	8′–0½″	4′–0¾″	3′–11½″	8′–0½″
26′	7′– 6⅝″	8′–8⅛″	4′–4¹¹⁄₁₆″	4′– 3⅞″	8′–8⅛″
28′	8′– 1¼″	9′–4⅛″	4′–8 ¾″	4′– 7⅞″	9′–4⅛″
30′	8′– 8⅛″	10′–0⅛″	5′–0⅛″	4′–11⅜″	10′–0⅛″
32′	9′– 3⅛″	10′–8¹¹⁄₁₆″	5′–4¹³⁄₁₆″	5′– 3⅛″	10′–8¹¹⁄₁₆″


TRUSSES WITH SLOPES GREATER THAN 4" PER FT. USE 2"x 6" FOR RAFTERS FOR ALL SPAN LENGTHS AND HAVE HEEL JOINT AS SHOWN IN RIGHT HALF OF DETAIL
3-2½" SPLIT RINGS
1-½" BOLT
12
4
2"x 6" FOR 20', 22', 24' & 26' SPANS
2"x 6" FOR 28', 30', & 32' SPANS
SCAB (1"x 4" OR EQUIV.)
1-2"x 4"
TRUSSES WITH SLOPES GREATER THAN 4" PER FT. USE 2"x 4" BOTTOM CHORD FOR ALL SPAN LENGTHS
2"x 6" FOR 28', 30', & 32' SPANS
2"x 4" FOR 20', 22', 24' & 26' SPANS
2-2½" SPLIT RINGS
2-½" BOLTS
2-2½" SPLIT RINGS
1-½" BOLT
6" 6" 6" 6"
2-2½" SPLIT RINGS
1-½" BOLT
1-2½" SPLIT RING
1-½" BOLT
TYPICAL END JOINT FOR 28', 30', & 32' SPANS
2-2½" SPLIT RINGS
2-½" BOLTS
TYPICAL END JOINT FOR 20', 22', 24' & 26' SPANS



Announcing...

FIBERGLAS* PERFORATED ACOUSTICAL TILE

Important Characteristics

- √ INCOMBUSTIBLE (Fed. Spec. SS-A-118 a)
- √ LIGHT WEIGHT
- √ DIMENSIONALLY STABLE
- √ HIGH ACOUSTICAL VALUE
- √ HIGH LIGHT REFLECTION
- √ FEWER PERFORATIONS—
  TESTED FOR MAXIMUM EFFICIENCY
- √ EASIER BRUSH PAINTABILITY
- √ EASIER MAINTENANCE
- √ ECONOMICAL—COMPETITIVELY PRICED
- √ IDEAL FOR FIRESAFE MECHANICALLY-SUSPENDED CEILINGS
- √ HIGH SAFETY FACTOR IN ADHESIVE APPLICATIONS
- √ APPROVED APPLICATORS IN PRINCIPAL CITIES

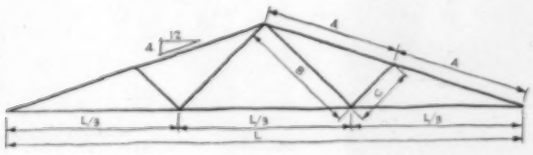
AVAILABLE APRIL 1st
Tile Sizes: 12″x12″
12″x24″
¾″ Thickness

OWENS-CORNING
FIBERGLAS
BUILDING MATERIALS

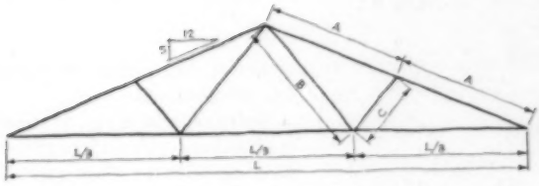
*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation for a variety of products made of or with glass fibers.

ROOF TRUSSES FOR SMALL HOUSES—for Plaster Finish

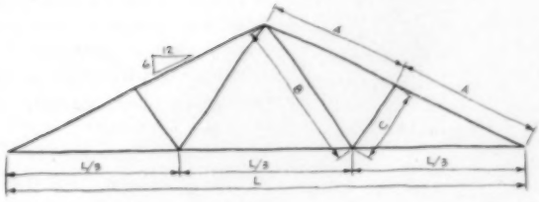
(*Continued from page 129*)



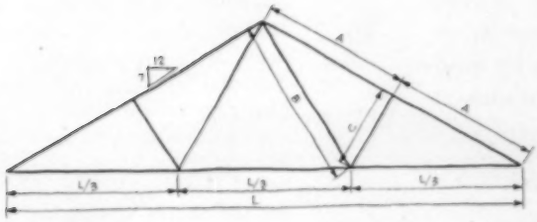
SPAN LENGTH	DIMENSIONS A	B	C
20′	5′– 3¼″	4′–8¾″	2′–3¹⁵⁄₁₆″
22′	5′– 9¹⁄₁₆″	5′–1⅛″	2′–6⅛″
24′	6′– 3⅞″	5′–7½″	2′–9¹⁄₁₆″
26′	6′–10⅜″	6′–1⅜″	3′–0⅞″
28′	7′– 4¹⁄₁₆″	6′–6¹³⁄₁₆″	3′–3⅛″
30′	7′–10¾″	7′–0½″	3′–6¼″
32′	8′– 5⅛″	7′–6⅛″	3′–8⅞″



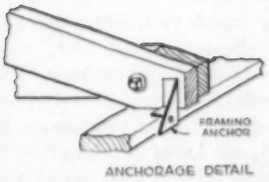
SPAN LENGTH	A	B	C
20′	5′– 5″	5′– 3⅛″	2′– 7⅛″
22′	5′–11½″	5′–10¹⁄₁₆″	2′–10¹³⁄₁₆″
24′	6′– 6″	6′– 4⅞″	3′– 2″
26′	7′– 0½″	6′–10⅞″	3′– 5¼″
28′	7′– 7″	7′– 5¼″	3′– 8⅞″
30′	8′– 1½″	7′–11¹⁄₁₆″	3′–11⅝″
32′	8′– 8″	8′– 6¼″	4′– 2¹³⁄₁₆″



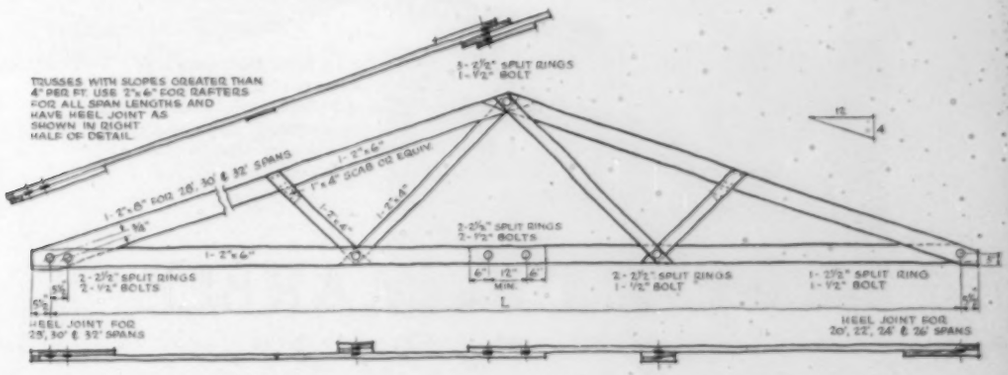
SPAN LENGTH	A	B	C
20′	5′– 7¹⁄₁₆″	5′–11¹¹⁄₁₆″	2′–11⅝″
22′	6′– 1¹³⁄₁₆″	6′– 6⅞″	3′– 3½″
24′	6′– 8½″	7′– 2⅛″	3′– 6⅞″
26′	7′– 3⅜″	7′– 9¾″	3′–10⅞″
28′	7′– 9¹⁵⁄₁₆″	8′– 4⅞″	4′– 2⅛″
30′	8′– 4⅜″	8′–11¾″	4′– 5¹¹⁄₁₆″
32′	8′–11⅛″	9′– 6¹³⁄₁₆″	4′– 9¼″



SPAN LENGTH	A	B	C
20′	5′– 9⅞″	6′–8⅜″	3′– 3⅞″
22′	6′– 4⅞″	7′–4¼″	3′– 7¹⁵⁄₁₆″
24′	6′–11⅜″	8′–0⅝″	3′–11¹⁵⁄₁₆″
26′	7′– 6⅝″	8′–8⅜″	4′– 4″
28′	8′– 1¼″	9′–4⅞″	4′– 8″
30′	8′– 8⅝″	10′–0½″	5′– 0⅛″
32′	9′– 3⅛″	10′–8¾″	5′– 4⅛″



ANCHORAGE DETAIL


TRUSSES WITH SLOPES GREATER THAN 4" PER FT. USE 2"x6" FOR RAFTERS FOR ALL SPAN LENGTHS AND HAVE HEEL JOINT AS SHOWN IN RIGHT HALF OF DETAIL.
1- 2"x6" FOR 28', 30' & 32' SPANS
1- 2"x6"
1-2"x6"
1"x4" SCAB OR EQUIV.
1-2"x6"
1- 2"x6"
1- 2"x6"
2- 2½" SPLIT RINGS
2- ½" BOLTS
2- 2½" SPLIT RINGS
1- ½" BOLT
1- 2½" SPLIT RING
1- ½" BOLT
2- 2½" SPLIT RINGS
1- ½" BOLTS
6" 12" 6" MIN.
L
HEEL JOINT FOR 28', 30' & 32' SPANS
HEEL JOINT FOR 20', 22', 24' & 26' SPANS

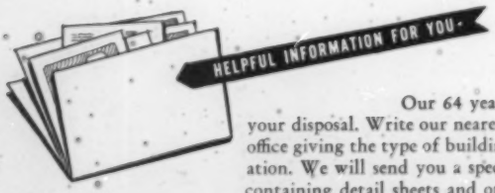
Bolts used are ½ in. dia. machine bolts with 2 by 2 by ⅛ in. plate washers, 2⅛ in. dia. cast or malleable iron washers, or ordinary cut washers. Timber connectors shown are Split Rings and framing anchors as manufactured by the Timber Engineering Co., Washington, D. C.

GEORGIA MARBLE—THE MODERN BUILDING MATERIAL

Federal Reserve Building, Washington, D. C.
Paul P. Cret, Architect, Philadelphia, Pa.
George A. Fuller Co., Contractors, Washington, D. C.

The Case of the
DIGNIFIED
GOVERNORS

Imposing in appappearance, the building for the Board of Governors of the Federal Reserve System was designed to inspire confidence. Its dignity is enhanced by the exterior of Georgia Crystalline Marble. Though used extensively in national and local government buildings, "the Marble with the Sparkling Crystal" has a myriad of other uses that make it the ideal building stone for today, tomorrow and for all time.



Our 64 years' experience is at your disposal. Write our nearest sales and service office giving the type of building under consideration. We will send you a specially prepared file containing detail sheets and other Georgia Marble information of interest and value.

GEORGIA MARBLE

The Marble with the Sparkling Crystal

Produced by THE GEORGIA MARBLE COMPANY *of Tate, Georgia*

Sales and Service Offices • NEW YORK, N. Y. • WASHINGTON, D. C. • CLEVELAND, O.
PHILADELPHIA, PA. • BRIGHTON, MASS. • ROCHESTER, N. Y. • ATLANTA, GA.

NEWS FROM CANADA

(*Continued from page 10*)

Canadian National Railways' new steam generating plant in Montreal. George F. Drummond, Chief Architect, C.N.R.

terms of, and within the period specified by, the contract.

Sentiment in favor of licensing builders has been growing as the result of the blow-up of an "integrated" housing scheme in the Calgary district. ("Integrated" is the name given the houses-for-sale program in which Central Mortgage and Housing Corporation gives the builder top priority rating for scarce supplies, plus a guaranteed profit, in return for his adherence to a pre-determined sales price, usually well below that of the market.)

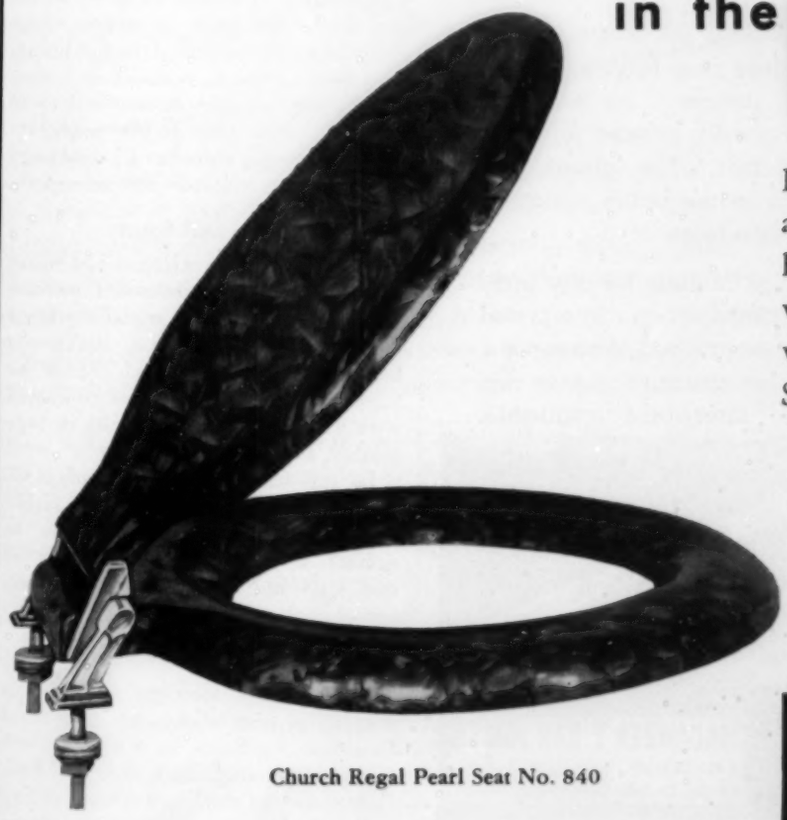
The Alberta tangle is exceedingly involved. There are, first of all, 40 house buyers, many of them veterans. There is the builder, the real estate agent acting for the builder, the Alberta provincial treasury, as a lender to the builder, the Manufacturers Life Assurance Company, as co-lender to buyers under the National Housing Act, and Central Mortgage and Housing Corporation, as organizer of the "integrated" program and co-lender to buyers under the National Housing Act. In addition, there are the supply companies and building tradesmen who have registered mechanics' liens against houses and buyers.

There appears to be no prospect of a quick settlement. Building started in the fall of 1947 and was suspended last summer. Prices originally quoted are likely to be exceeded in some cases by as much as $2000. Only a few houses have been finished and, according to city building inspectors, these show serious defects. Central Mortgage is expected to offer to increase the size of mortgage loans and lengthen the amortization period. This would help buyers, pay off mechanics' liens, but in the long run they would be meeting the extra costs themselves. The Canadian Legion to which many of the veterans belong, is being urged to take up cudgels.

(*Continued on page 134*)

"The best seat in the house"

If a man is smart enough to have an architect direct the building of his home, he's sure to know quality when he sees it. That's one reason why most architects specify Church Seats . . . best known — best made.



Church Regal Pearl Seat No. 840

Church Seats

C. F. CHURCH MFG. CO. HOLYOKE, MASS.

Division of American Radiator & Standard Sanitary Corporation

Serving home and industry

AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILER • ROSS HEATER • TONAWANDA IRON

Macomber Steel Framing for multi-story apartments and single dwellings is now being used in many of the country's outstanding housing projects. These nailable steel framing units are fabricated to specified loadings and for structural layouts of similar design.

BE GLAD YOU'RE ON THAT PLANNING BOARD

•

HERE'S MACOMBER STEEL FRAMING

•

Write us.

Floors, partitions and roofs are framed in the time required to set these shop fabricated units in place. The open design — an exclusive Macomber feature — greatly reduces pipe and conduit installation costs. The absence of combustible materials in the entire structural frame reduces insurance rates.

You have ample design latitude for any practical purpose. Your drawings are interpreted into Builder's Units — engineered to save time, to fit smoothly into his structural needs and finishing operations. Literature available.

STEEL ROOF TRUSSES SAVE TIME AND ADD STRENGTH
MACOMBER V BAR JOISTS
A BETTER FLOOR FOR ENGINEER TO DESIGN, BUILDER TO ERECT, AND OWNER TO HAVE
U. S. PATENT NO. 2104112 AND PATENTS PENDING

V-BAR JOISTS AND PURLINS • V-STUDS • TRUSSES • LONGSPANS • DECKING

MACOMBER
INCORPORATED
CANTON, OHIO

IN MEXICO D. F.—MACOMBER DE MEXICO S.A. CEDRO 500

STANDARDIZED STEEL BUILDING PRODUCTS

NEWS FROM CANADA

(*Continued from page 132*)

Housing for Primary Industries

Married workers in primary industries, whose jobs require them to live in Canada's hinterland, benefit from a special section of the National Housing Act. Any company engaged in mining, lumbering, logging or fishing which desires to provide suitable accommodation for its employees and their families may apply for a loan from Central Mortgage and Housing Corporation.

It is possible to borrow up to 80 per cent of the lending value of the housing project at an interest rate of 4 per cent per annum. The amortization period cannot exceed 15 years, and the project must be operated on a non-profit basis.

So far, the legislation has been taken advantage of in only two provinces: British Columbia and Quebec. Mining, lumbering and pulp and paper interests have been lent about $400,000 for the construction of slightly over 100 dwelling units. The types of shelter range from detached and semi-detached houses to apartment blocks. Some of the houses are mounted on skids to enable them to be moved from place to place. The average dwelling or suite has 4.5 rooms and rents for approximately $30 per month.

N.H.A. Lending Still Spurts

Volume of National Housing Act loans showed a further substantial increase in September, reports Central Mortgage and Housing Corporation. September loan approvals totaled $11,799,440 for 2218 new dwelling units, as compared with $7,099,800 for 1426 units in September, 1947

In the first nine months of 1948, N.H.A. loans amounting to $80,147,440 were approved for 15,348 units as against an aggregate of $43,933,850 and 9128 units in the corresponding period of the previous year.

R.C.A.F. Buys Packaged Houses

The Peerless Housing Corporation design has been chosen by the Royal Canadian Air Force for a new housing development at its base at Goose Bay, Labrador. The dwellings consist of five contrasting types, contain six rooms and were packaged as complete units before shipment. Structural members were pre-cut and numbered to match an erection plan. Likewise wall siding and roof boarding. Heating ducts, doors and windows with frames and hardware were fabricated ready to install. Asphalt shingles, bundled in the package, adhered to a color scheme designed to ensure variety of appearance.

(*Continued on page 136*)

SERVICE RECORD

"...Webster Baseboard Heating was something new in Elmira, and I wanted to be sure it was all you claimed before I recommended it to other people. I had it installed in my new home. Last winter the temperature dropped to 20 degrees below zero, but we maintained 70 degrees easily. If I ever build another home, it will have a Webster Baseboard Heating system. That is the finest compliment I can offer..."

Charles W. Personius, Project Engineer and Assistant to the President of American Warming & Ventilating had Webster Baseboard Heating installed in his new home in Elmira, New York. He wanted to make certain Webster Baseboard Heating was as good as he had been told. The house, a one story structure, has seven rooms, with an unheated crawl space between the joist and the roof.

Even with outdoor temperature of 20° below zero during the 1947-1948 heating season, 70° room temperature was maintained easily, as Mr. Personius states. Though he was satisfied the temperature was satisfactory, he checked this further by placing a dairy thermometer on the floor and hung another as close to the ceiling as possible. He found that the floor temperature was 69 degrees and the temperature at the ceiling was 71 degrees—a variation of only two degrees.

Mr. Personius' experience with Webster Baseboard Heating is typical of hundreds of homeowners. Heating people like Mr. Personius are recommending genuine, perfected Webster Baseboard Heating to their customers because of successful heating results obtained in their own homes. Webster Baseboard Heating is clean heat, convected heat, *and* radiant heat.

Right now in many cities, leading heating contractors are building their 1949 business plans around Webster Baseboard Heating. Get all the details from the Webster Representative in your locality.

Address Dept. AR-1

WARREN WEBSTER & CO.

Camden, N. J. : : Representatives in Principal U. S. Cities

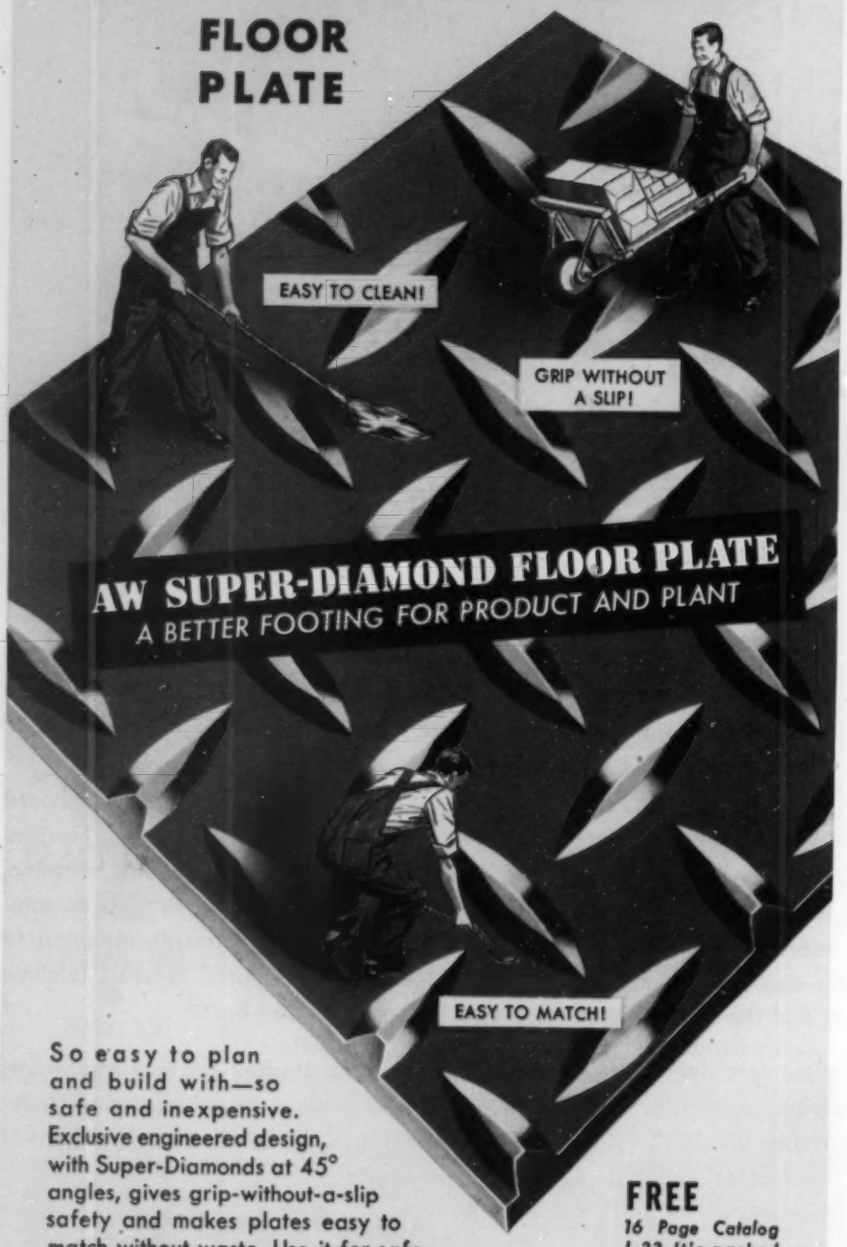
In Canada, Darling Brothers, Limited, Montreal

Webster BASEBOARD HEATING

Foundation for Safety

AW SUPER-DIAMOND

FLOOR PLATE



So easy to plan and build with—so safe and inexpensive. Exclusive engineered design, with Super-Diamonds at 45° angles, gives grip-without-a-slip safety and makes plates easy to match without waste. Use it for safe, strong, clean loading platforms, fire escapes, walkways, trench covers, running boards, machine tool bases and other product and plant applications.

FREE

16 Page Catalog L-33 It's packed with useful information. Write now.

AW SUPER-DIAMOND

FLOOR PLATES THAT GRIP

A Product of ALAN WOOD STEEL COMPANY

Other Products: Permaclad, Stainless Clad Steel • AW Super Grip, Abrasive Floor Plate • Billets • Plates • Sheets (alloy and special grades)

NEWS FROM CANADA

(*Continued from page 134*)

Robert Simpson Co., Ltd.

Revision of Ontario liquor control legislation to permit cocktail lounges in the cities has produced a rash of swanky new bars such as the Embassy Lounge, Toronto, shown above — one of the best of them. John B. Parkin Associates, Architects; interiors by Robert Simpson Co., Ltd.

Little Change in Building Time

The average time required to erect dwelling units completed in September was 5.4 months, according to the latest housing bulletin issued by the Dominion Bureau of Statistics. The bulletin states there has been little change in completion time in larger urban centers. The low national average is made possible by house building activity in small towns and rural areas. In these localities completion time is about four months.

The number of dwelling units completed in Canada during the first nine months of 1948 was 50,238. On a population basis this represents proportionately the same volume of residential construction as recorded in the United States. Starts in September exceeded completions, as they have in every month since April, and the number of houses under construction by the end of the month totaled 63,656.

Shortage or Maldistribution?

Delegates to the recent conference of the Canadian Federation of Property Owners recorded their belief that there is no longer a housing shortage but only a maldistribution of existing housing. They passed a resolution stating that "a return to normal conditions within a resonable time is only possible if residential rental controls are removed and private enterprise encouraged to build housing accommodation for rent."

The resolution went on to say that the operation of the law of supply and demand and the natural movement of tenants was likely to provide a more even distribution of existing housing.

New H&H No. 9260

BACK-WIRED (or side wired) DUPLEX

CONVENIENCE OUTLET

T-SLOTS • DOUBLE SIDE CONTACTS
PLASTER EARS

This advanced design provides for either *back* wiring or *side* wiring with equal facility. Back-wiring feature makes easier, more secure installation. Built-in stripping guide assures correct stripping; eliminates exposed wire. Individual terminal clamps hold wires with a no-slip grip. Other structural features are:

- Large Recessed Binding Screws
- Ample for No. 10 Wire
- Strong Plastic Base
- Double T-Slots
- Double Side Contacts
- Washer Type Plaster Ears

Large recessed binding screws, ample for No. 10 wire;

Strong plastic base;

Double T-slots;

Double side contacts;

Washer type plaster ears.

Listed as standard by Underwriters Laboratories, Inc. and meets all high-grade specifications. Specify No. 9260 for brown plastic base; No. 9260-I for white Ivorylite.

10 AMPS. — 250 VOLTS 15 AMPS. — 125 VOLTS

Mail this Coupon

To Arrow-Hart & Hegeman Electric Company, Hartford 6, Conn.

Send us your catalog data-sheet on the new 9260 Back-Wired Duplex Convenience Outlet.

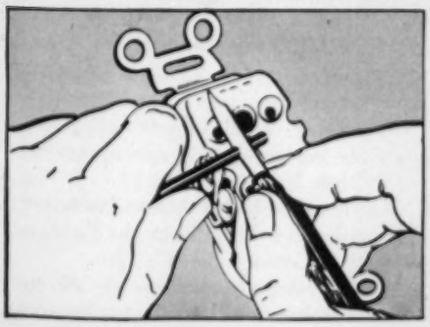
(*Name*) _____

(*Firm*) _____

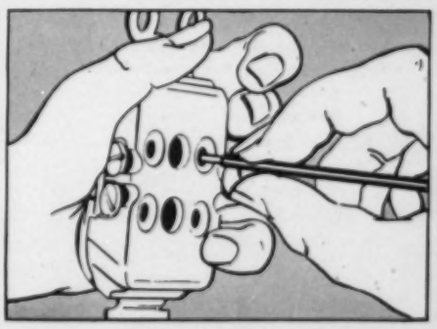
(*Address*) _____

(*City & State*) _____

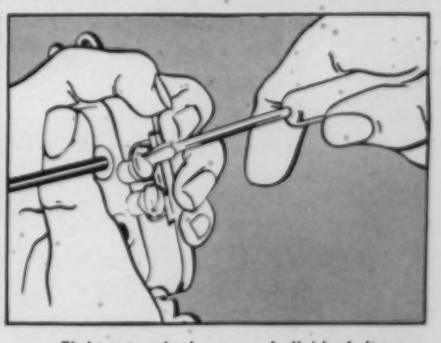
THE ARROW-HART & HEGEMAN ELECTRIC COMPANY, HARTFORD 6, CONN., U.S.A.



1. Strip off insulation to exact length, quickly and easily, using built-in stripping guide.



2. Loosen terminal screw — Wire stripped to correct length is inserted from back.



3. Tighten terminal screw — Individual clamps grip securely with no exposed wire.

Michaels STORE FRONTS

Michaels store fronts, push bars, kick plates and thresholds of extruded bronze, aluminum, stainless steel and other metals meet virtually every requirement. Many stock designs are available. However, Michaels is set up to faithfully reproduce in metal the most intricate creations of discriminating architects. Michaels store fronts are unusually attractive and inviting. Specially designed metal letters of harmonizing or contrasting colors add to the effectiveness of these modern store fronts. ¶Architects and builders are invited to consult us on all their requirements for ferrous and nonferrous building products. A partial list of Michaels products is shown below. If this list does not include the product you need, write us. Chances are we have it or can make it. Complete information on any or all products will be sent on request.

MICHAELS PRODUCTS

Bank Screens and Partitions
Welded Bronze Doors
Elevator Doors
Store Fronts
Lettering
Check Desks (standing and wall)
Lamp Standards
Marquises
Tablets and Signs
Name Plates
Astragals (adjustable)
Stair Railings (cast and wrought)
Wrought and Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Cast Thresholds
Extruded Thresholds
MI-CO Parking Meters
Museum Trophy Cases

The MICHAELS ART BRONZE Co., Inc., 234 Scott St., Covington, Ky.

Member of the National Association of Ornamental Nonferrous Metals Manufacturers

★

THE RECORD REPORTS

(*Continued from page 20*)

BUILDING NOTES

Wright to Design Theater

Frank Lloyd Wright will be the architect for an experimental theater in the Greater Hartford, Conn., area, to be built and operated by a corporation headed by Paton Price and Morgan O'Brien James. According to present plans, the theater will seat about 700, and will provide for future expansion at small additional cost to 1000 or more seats. It will have a convertible stage with integral lighting, and "will demonstrate the theater as an automatic labor saving machine sealed from noise and making no noise."

One of the features of the plan is a solid plastic curtain moving on a single circular rail, which when opened will serve as a cycloramic backdrop. There will also be revolving stages, and a perforated orchestra screen through which the orchestra can see the stage action but cannot be seen by the audience.

Additional features include two main entrances, one on each side of the building, to eliminate lobby crowds and congestion; a cloister-like walk around the entire back of the auditorium to allow late-comers to take their seats with a minimum of interference with other patrons; and a promenade at balcony height, extending completely around the building, where patrons may gather for a smoke at intermission time.

Auditorium

Final plans and specifications for a new City-County Auditorium have been approved by the Memorial Auditorium Commission of Spartanburg, S. C. Designed for memorial and public services and facilities, the new building will include provisions for AM and FM broadcasting, and for the sending and reception of television. The site, attractively landscaped, will have ample parking space. Architects-Engineers are Lockwood Greene Engineers, Inc., Spartanburg office, associated with Walter M. Cook and Associates of Dallas, Texas, on the auditorium planning.

$10,000,000 Apartments

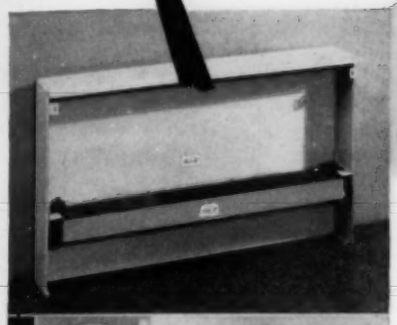
Mid-Manhattan's East side is to have another new apartment development: a $10 million rental project which will provide medium-priced apartments for more than 500 families.

Designed by H. I. Feldman, Architect, the project is being built by the Tishman Realty & Construction Co., Inc.

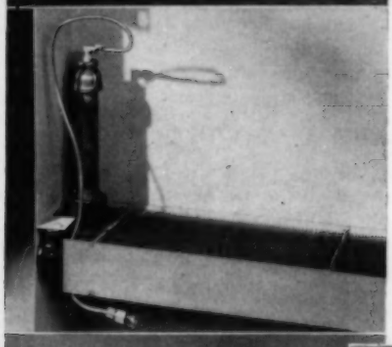
The development will occupy the entire block-front on York Avenue between 62nd and 63rd Streets. Over a third of

(*Continued on page 140*)

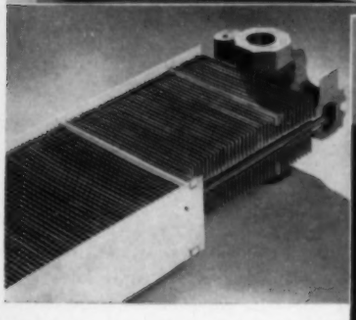
Presenting a new line of Fedders Type F Convector-Radiators



Showing location of heating element.

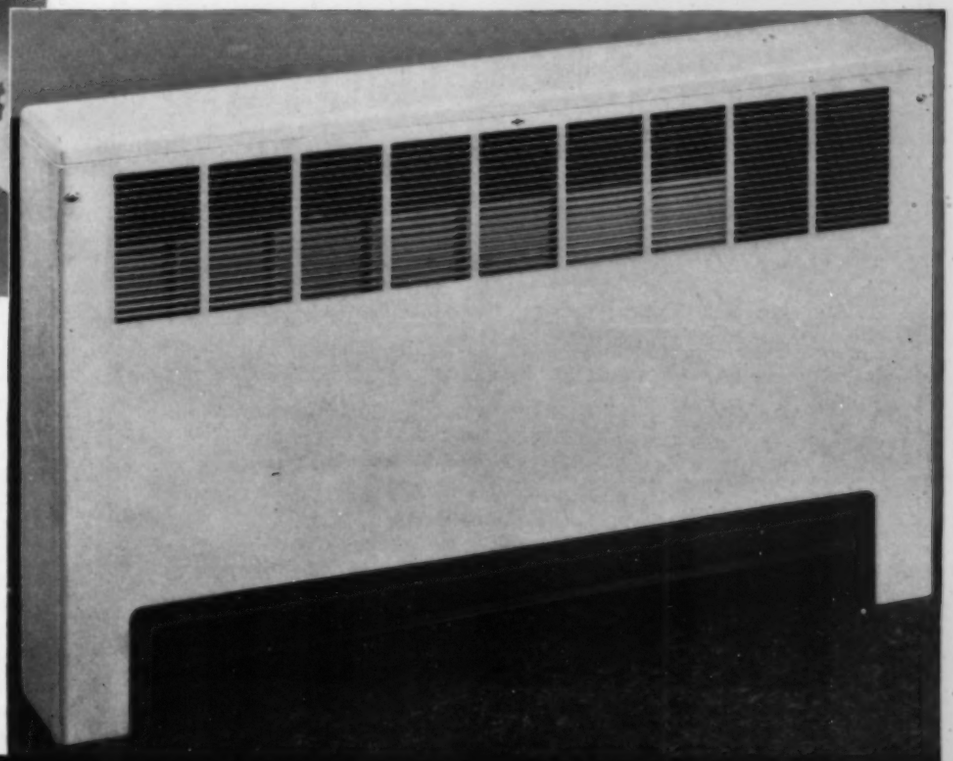


Note convenient piping, adjustment for pitch, and air vent.



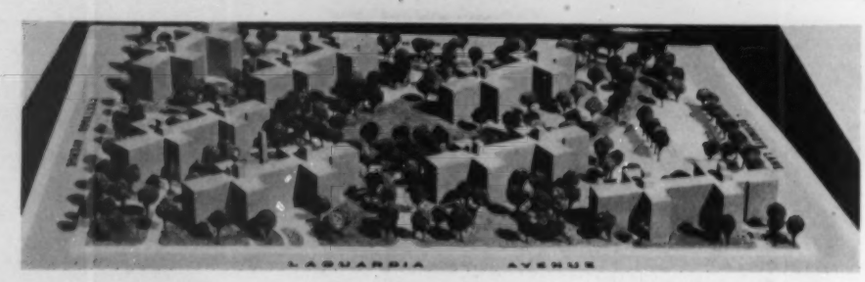
Cutaway view showing arrangement of fins, tubes and headers.

Men who design, specify, sell, install and service household and commercial heating systems will welcome Fedders Type F Convector-Radiators. They are built in a complete range of standardized sizes and capacities for free-standing and semi-recessed installations. Heating element design is a result of over 50 years of Fedders heat transfer experience and skill. They combine thermal and aerodynamic efficiency with consequent comfort and fuel economy. Write for catalog and price list. Representatives in principal cities, see your classified telephone directory.



HEAT TRANSFER SPECIALISTS SINCE 1896

FEDDERS-QUIGAN CORPORATION • BUFFALO 7, N. Y.



New York City Housing Authority's Todt Hill Houses. H. I. Feldman, Architect

the 90,000 sq. ft. of the site will be given over to gardens. The three 12-story buildings will be so placed on the site that almost all of the apartments will have a view of the East River.

All main entrances to the three buildings will face the "park" portion of the site, and will be reached by pedestrians through walks entering from 63rd Street. A semi-circular motor driveway will provide automobile access via 63rd Street to each of the three building entrances.

Apartments will range in size from 2½ to 4 rooms.

New York Public Housing

Plans have been filed for two more public housing projects in the New York City Housing Authority's huge building project: Dyckman Houses, in uptown Manhattan, and Parkside Houses in the Bronx. Architects are William F. R. Ballard, of the firm of Harrison, Ballard and Allen, for Dyckman Houses, and Walker and Poor for Parkside.

Further advanced is a 502-apartment project on Staten Island, Todt Hill Houses. Now under construction, this project was designed by H. I. Feldman, Architect; it will have seven 6-story buildings covering 14.7 per cent of the 12.3-acre site.

SLUM AREAS STUDIED

Currently underway is an intensive investigation of methods to eliminate blighted areas in American cities and to minimize slum growth in the future. Titled the Urban Redevelopment Study, this 30-month project is designed "to contribute toward comprehensive redevelopment of urban areas and to meet the needs of their citizens in the second half of the 20th century."

The study will include both investigation of programs aimed specifically at eradicating physical decay in cities, and "ways to assure a favorable environment for a vigorous and healthful civic, economic, and social life for all urban dwellers — now and in the future."

A grant of private funds has been made for this purpose because of the rate at which blight has infected what were once many of the prosperous urban areas in America. In addition, other communities, some of fairly recent development, are beginning to show signs of disintegration, not only producing bad housing, but also, undermining values in business and industrial locales.

The director of the study is Mr. Coleman Woodbury. The organizing committee for the study includes Mr. Herbert Emmerich, chairman, director of the Public Administration Clearing House; Mr. Charles B. Bennett, director of planning in Los Angeles; Mr. Ernest J. Bohn, chairman of the City Planning Commission of Cleveland; Mr. Walter Blucher, executive director of the Ameri-

(*Continued on page 142*)

The INNER SANCTUM
. . . Without Mystery

THE picture above shows a partial view of our inner sanctum. Of unusual design, it's a showpiece of the art of wood fabricating.

There's no mystery about the excellence of the work that went into our inner sanctum. In fact, Bergen's capabilities in wood fabricating are no mystery to many of America's finest firms and best known architects.

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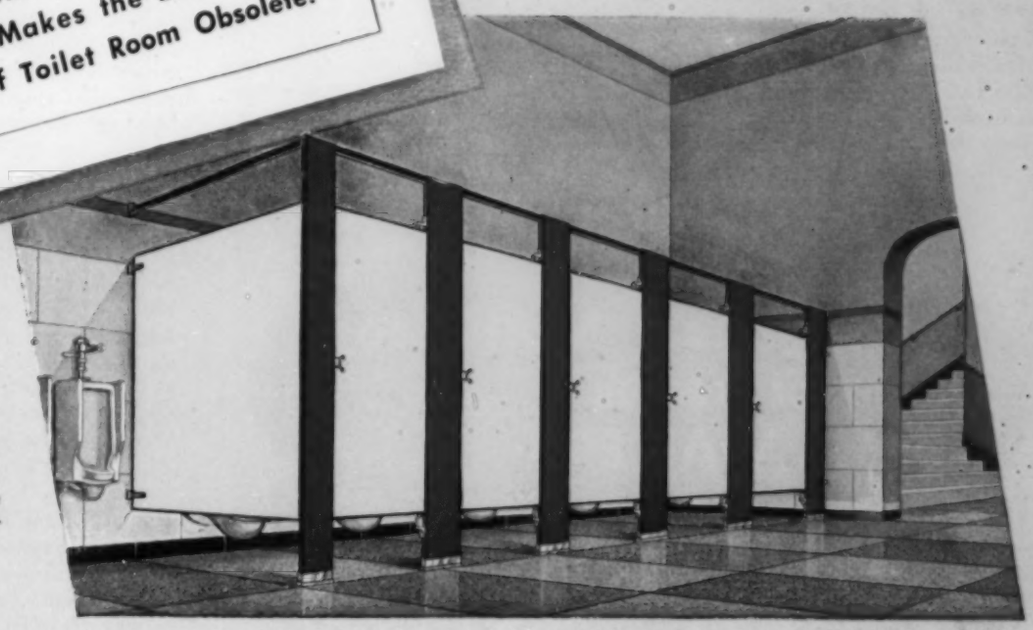
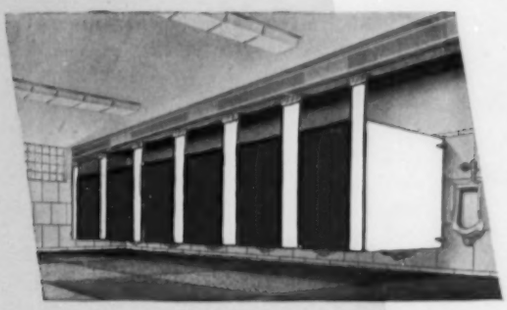
The Ascendancy of Good Taste Coupled with Convenience in Toilet Room Environments Makes the Bare Functional Type of Toilet Room Obsolete.

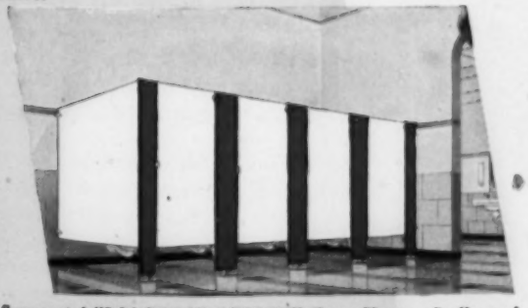


Sanymetal "PORCENA" ACADEMY Type Toilet Compartments are suitable for conservative but modern toilet room environments.

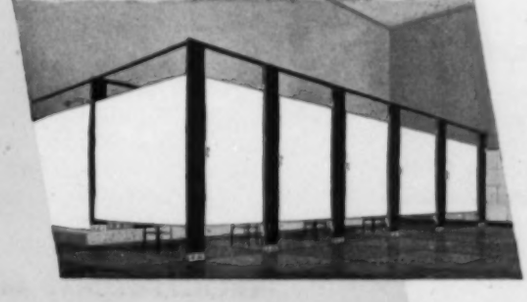
Sanymetal "PORCENA" CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive toilet room environments for schools, institutions, terminals and other public buildings.



Sanymetal "PORCENA" NORMANDIE Type Toilet Compartments endow a toilet room environment with dignity and good taste.



Sanymetal "PORCENA" ACADEMY Type Shower Stalls and Dressing Room Compartments provide the utmost in sanitation for tourist camps, gymnasiums, clubs, Y. M. C. A.'s, etc.



● Simplicity, cleanliness and good taste will not be denied expression in building interiors of the future. Toilet compartments usually dominate a toilet room, influencing the toilet room environment.

Sanymetal "PORCENA" Toilet Compartments are fabricated of ageless and fadeless material, porcelain on steel, which is a glass-hard, stainless material that always looks new, does not absorb odors, is moisture- and rust-proof, and resists the corroding of ordinary acids. The glistening "PORCENA" finish, which can be wiped clean as easily as a porcelain table top, requires no painting or refinishing.

Sanymetal "PORCENA" Toilet Compartments combine the results of over 35 years of specialized skill and experience in making over 96,000 toilet room installations. Ask the Sanymetal Representative in your vicinity (see "Partitions" in your phone book for local representative) for further information about planning suitable toilet room environments. Refer to Sanymetal Catalog No. 19-B6 in Sweet's Architectural File for 1948.

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can Society of Planning Officials. Headquarters are at 1313 E. 60th St., Chicago.

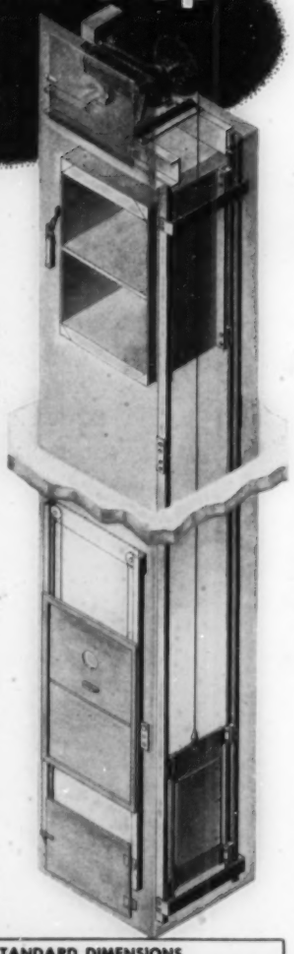
AT THE COLLEGES

Breuer's Work Shown

A photographic exhibition of the work of Marcel Breuer, internationally-known architect and designer, was the inaugural showing in the new art gallery at the Chicago Undergraduate Division of the University of Illinois in the east lounge of the University's Navy Pier quarters.

The display, organized and circulated by the Museum of Modern Art, New York, is the first one-man show of Mr. Breuer's work in this country. It was on view at Harvard University for a month before being taken to Chicago, where it was shown from October 25 to November 15. It includes 40 panels of photographs and explanatory material showing houses, buildings and furniture designed by Mr. Breuer.

Sedgwick Multi-Stop Electric Traction DUMB WAITERS



WHERE THERE ARE THREE OR MORE LANDINGS TO BE SERVED . . . specify Sedgwick Electric Traction Dumb Waiters—confident that your clients will be fully satisfied. Proven performance is attested by thousands of installations, operating successfully from coast-to-coast, contributing convenience, efficiency and economy in hospitals, hotels, restaurants, clubs, libraries, schools, stores and other commercial, institutional and industrial buildings. Available to you—from specification to installation—is Sedgwick's 55-year-old experience in planning, engineering, manufacturing and installing of vertical transportation equipment.

Throughout, Sedgwick combines sound, progressive electrical and mechanical engineering to produce a Multi-Stop Dumb Waiter meeting the highest standards of dependable operation, low-cost maintenance and finished appearance.

Machine consists of elevator-type high torque, low starting current motor, with worm gear reduction built as one unit and an adjustable electro-magnetic brake. Gearing operates in a sealed case filled with special lubricant. Control is fully automatic with momentary pressure push buttons at each landing opening, permitting car to be called and dispatched as desired. Each push button station is provided with "open door" and "in use" signal lights to expedite efficient use of equipment. Sedgwick Type "SL" Combination Door Locks and Switches are provided for hoistway doors to prevent opening of any door except that door at which the car is at rest, thus permitting operation of car only when all doors are closed. Other refinements in the control system include reverse phase relay, overload relay and non-interference relay.

In addition to Sedgwick Multi-Stop Electric Traction Dumb Waiters, Sedgwick also builds the Roto-Waiter, designed especially for two-stop service. Both are of all-steel construction. Specify, too, Sedgwick Steel Dumb Waiter Doors for complete satisfaction.

Whatever your vertical transportation problem may be, it is probable that we have case histories on parallel applications in our files. We'll be glad to supply you with such information, prices or any other data you may require.

STANDARD DIMENSIONS						
Capacity in lbs. . . .	200	200	300	300	500	500
Speed in F.P.M. . . .	50	100	50	100	50	100
Car Width.	24″	24″	30″	30″	36″	36″
Car Depth.	24″	24″	30″	30″	36″	36″
Car Height Inside .	36″	36″	36″	36″	48″	48″
Clear Inside Hoistway Width. . . .	33″	33″	39″	39″	45″	45″
Clear Inside Hoistway Depth.	29″	29″	35″	35″	41″	41″

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ELEVATORS · DUMB WAITERS · RESIDENCE ELEVATORS · STAIR-TRAVELORS
ROTO-WAITERS · SIDEWALK ELEVATORS · FREIGHT ELEVATORS · DUMB WAITER DOORS
BUILDERS OF VERTICAL TRANSPORTATION SINCE 1893

U.P. Campus Plans Announced

Plans for the physical development of the University of Pennsylvania which call for widespread changes in its campus have been announced by Harold E. Stassen, President of the University. Drawn by a University-appointed committee of prominent architects, the plans visualize the addition of 35 acres to the present 113-acre campus, eventual construction of a number of new buildings, more open space surrounding existing buildings, elimination of several traffic arteries, and other features.

Members of the committee of architects, all of whom are graduates of the University's Department of Architecture, are: James R. Edmunds, Jr., Baltimore; James K. Smith, of the firm of McKim, Mead and White, New York; John Harbeson and Roy F. Larson, of the firm of Harbeson, Hough, Livingston and Larson, Philadelphia; Grant M. Simon, Philadelphia; and Sydney E. Martin, Philadelphia. Mr. Martin is chairman of the committee.

Among the new buildings projected are one for the Physics Department, a library, an administration building, Law School dormitories, and new outpatient and inpatient buildings for the University Hospital. The architects are keeping in close touch with the City Planning Commission, and all of their proposals for the elimination of various streets now crossing the campus have met with the Commission's approval. The new buildings will not necessarily follow the style of the old ones. A number of them, in fact, "may depart quite radically from traditional forms," the architects' report states, "while others may, to some degree, reflect the past. But we believe that if we adhere generally to red brick and limestone for exterior materials, a color harmony will exist throughout the campus that will make for sufficient continuity."

New Buildings for Illinois Tech

Ground has been broken for a new building to house the Institute of Gas Technology on the Illinois Institute of Technology campus. Designed by Ludwig Mies van der Rohe, head of Illinois Tech's Department of Architecture, the building will be two-story with full basement, 180 by 75 ft., and will house the Gas Technology Institute's precision laboratories, some research laboratories, library, information service, classrooms, administration and business offices. Friedman, Alschuler & Sincere are consulting architects.

Construction is expected to begin shortly on another new building at Illinois Tech — a $675,000 heating plant which eventually will serve the entire 100-acre south side campus. Exterior of the plant will be buff face brick to con-

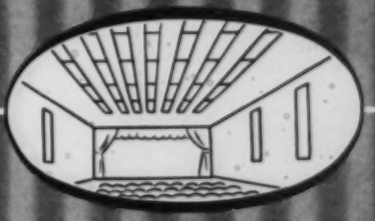
(*Continued on page 144*)

USE MONA-LITE* FOR

Conference Rooms

Waiting Rooms

Auditoriums



When you plan the lighting of conference rooms, waiting rooms, auditoriums, etc., where fixtures may be in the field of vision for extended periods, lighting panels should be *low in brightness* to prevent eye fatigue.

MONALITE,* Corning's newest opal, with its special quality of low transmission, meets this requirement. When suspended, open top fixtures equipped with MONA-LITE provide adequate ceiling illumination due to the high reflection factor of this glass. Box type fixtures with MONA-LITE panels have achieved brightness levels as low as .5 candles per square inch!

Providing color tones approximating those of incandescent, MONA-LITE actually imparts a soft, warm tone to fluorescent light. It is also recommended for installations which combine fluorescent and incandescent light sources. For complete data on MONA-LITE, ALBA-LITE, and other Corning Lightingware, **send for bulletin LS-17.**

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form to the other new campus buildings, with the north wall of tile or block construction to permit easy extension. The new heating system will feature a double loop tunnel, with the inner loop supplying educational and research buildings and the outer loop furnishing heat for the campus housing units. Heat may be fed in either direction on either loop, thereby obviating a shutdown in the event of a break at any point in the system.

New Wing for Barnard Hall

Construction of a two-story addition to Barnard Hall, which houses student activities, the library and the gymnasium of Barnard College, is now under way. The new wing will provide lounge and study facilities now inadequate for day students. It will be of steel and concrete, with exterior walls of brick, and will be built on the North Terrace, formerly used for various outdoor functions.

The wing was designed by Frederic Rhinelander King, a trustee of Barnard College and member of the architectural firm of Wyeth and King, of New York. Its main feature will be a 32- by 36-ft. lounge with windows on three sides and a large fireplace. An alcove off the lounge will house a snack bar. The second floor will provide four offices for student activities, including the student publications and student government. A sliding partition between two of the offices will be removable to provide a large room for student meetings.

Appointments

Cecil C. Briggs, Architect, of Peoria, Ill., has been appointed visiting professor in architecture at the University of Illinois. He will serve on a half-time basis, and will be in charge of the program of graduate students with majors in architectural design.

Lionel T. Chadwick, Architect, has been appointed Assistant Professor of Architecture at the University of Florida.

Michael Czaja, Architect, has been appointed Lecturer at the School of Architecture, the University of California at Berkeley. He previously was Associate Professor of Architecture at the State College of Washington, and Director of Architecture at Bennington College.

Eric Mendelsohn, architect of the San Francisco Maimonides Health Center for the Chronic Sick and new Community Centers in St. Louis, Cleveland, Baltimore and Washington, D. C., has been appointed Lecturer at the University of California School of Architecture. He is teaching the Senior Design Class.

The College of Architecture and Design, University of Michigan, has announced the appointment of Jerrold Loebl, Norman J. Schlossman and Richard M. Bennett of the firm of Loebl, Schlossman and Bennett, Architects, of Chicago, and K. Lonberg-Holm, Director of Research, F. W. Dodge Corporation, as visiting critics in Senior Design for the current semester.

Prof. George R. Thomas, head of the University of New Hampshire's Department of the Arts, has been appointed director of the University's summer session.

New Courses

During the Spring Semester, Evening Courses in Architecture at Columbia University are offering courses in basic and advanced Estimating. The courses are designed for estimators in the building construction field, and include material determination, quantitative surveys by materials and trades, cost records, pricing of work, subcontracts and comparative economics of various materials and structural systems. Registration may be

(*Continued on page 146*)

3 GYMS IN ONE

From Coast to Coast the HORN FOLDING BLEACHERS AND HORN FOLDING PARTITIONS are making one Gym do the job of three. With emphasis on careful planning Horn offers a "tested" solution to gym problems.

HORN FOLDING BLEACHERS-HORN FOLDING PARTITIONS

HORN, with years of experience and skill, offers to every school planner the services of the Horn Engineering Department. Horn installations are guaranteed.

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FORT DODGE, IOWA ESTABLISHED 1909

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STYLE A MIXER

Back in 1923

Bathers can really relax and enjoy the best shower they ever had with—

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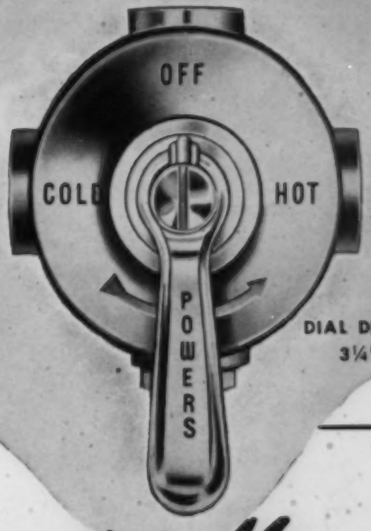
THE SAFEST MODERN MIXER



DIAL DIAM. 3¼"

THE POWERS TYPE H *Thermostatic Mixer*

gives two-way protection against scalding or jumpy shower temperatures caused by—

1 PRESSURE *or* 2 TEMPERATURE

fluctuations in water supply lines

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ONLY ONE MOVING PART

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CONTROL WITHIN ½°F.

reported by users. Is widely used in Hospital hydrotherapy, X-Ray and Color Film Developing.

Safer Showers **WITH POWERS**

THE POWERS REGULATOR CO.

OFFICES IN 50 CITIES • SEE YOUR PHONE BOOK

*Over **55** Years of Water Temperature Control*

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made in person Wednesday, January 26 to Saturday, January 29, inclusive.

The Extension Division of the University of Wisconsin has revised two of its courses in concrete construction to base them on the 1947 Building Code of the American Concrete Institute. The revisions take account of changes in the allowable stresses of steel and concrete, and of changes in the methods of designing: slabs supported on four sides, flat slabs and footings. The courses concerned are Principles of Reinforced Concrete and Reinforced Concrete Fundamentals.

OFFICE NOTES

Offices Opened, Reopened

The H. K. Ferguson Co., Industrial Engineers and Builders of Cleveland, has established a new sales office in Chicago to supply an increasing demand for industrial engineering and building services in the Chicago area. The new office, located at 120 S. LaSalle St., Chicago, is managed by L. Douglas Lacy, formerly in the Company's main office.

Robert Gustav Gustafson, A.I.A., has opened an office for the general practice of architecture at 15½ E. Front St., Monroe, Mich.

New Addresses

The following new addresses have been announced:

Leon Hyzen, Architect and Industrial Designer, 1129 N. Dearborn St., Chicago 10, Ill.

Ernest Tamplin, Architect, City Plan and Zoning Consultant, 22229 John R., Hazel Park, Mich.

New Firms, Firm Changes

The corporate name of Barr and Lane, Inc., Builders, of New York and Boston, has been changed to Barr and Barr, Inc.

Harrison, Ballard & Allen, Housing Consultants and Planners, have announced the appointment of Samuel A. Scoville, A.I.A., to an executive position in the firm. Mr. Scoville recently has been a land development specialist for Previews, Inc.

William H. Hidell, Jr., and Howard G. Decker, Jr., have formed a partnership for the practice of architecture under the firm name of Hidell & Decker, Architects, with offices at 2715 Oak Lawn, Dallas 4, Texas.

John Stephen Holloway, William Moore Weber and Ralph Bernard Reeves, Jr., all Registered Architects, have announced the formation of the firm of Holloway, Weber and Reeves, Architects, with offices at 1916½ Hillsboro St., Raleigh, N. C.

Arthur A. Shurcliff and Sidney N. Shurcliff, Landscape Architects and Town Planners, of 14 Beacon St., Boston, Mass., have announced the affiliation of Vincent N. Merrill, M.L.A., as an associate of the firm.

Announcement has been made of the opening of the office of Lee Potter Smith, Architect — Richard M. Beach, Associate Architect, Hinners Bldg., Metropolis, Ill.

Lawrence Grant White and James Kellum Smith have announced that Alexander S. Corrigill has rejoined their organization and has become an associate of the firm of McKim, Mead & White, 101 Park Ave., New York 17.

OLD COPIES OF THE RECORD AVAILABLE

Lewis P. Andrews, A.I.A., of Andrews & Hutchens, Architects-Engineers, 828 Porter Bldg., Broadway at 34th St., Kansas City 2, Mo., would appreciate "a fair and equitable offer" for any or all of the following issues of the ARCHITECTURAL RECORD: Vol. I, Nos. 1, 2, 3 and 4; Vol. II, entire; and practically all subsequent issues from 1891 to 1928.

Contrasting with today's kitchens by Van is this crowded hotel kitchen of Mid-Victorian days

Bettman Archive

Picturing clean brilliance and economy in the use of stainless metal and kitchen engineering which Van has pioneered

Van's century star-studded

★ As Van starts its second century of service to hotels, its experience has earned for it respect and authority in its field . . . kitchen engineering and equipment . . . among architects, operators, food service staffs of leading hotels.

★ When planning new projects, revisions or extensions to existing food service, owners and architects have found that it pays handsome dividends to call in Van.

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6 ways to give clients more value

WITH GOLD BOND FIBRE INSULATION SHEATHING

The big, sturdy panels of Gold Bond Insulation Sheathing...made from specially selected Southern pine...provide greater structural strength than the old style, narrow-width sheathing applied horizontally.

GREATER STRUCTURAL STRENGTH

Gold Bond Insulation Sheathing keeps summer heat *out*, furnace heat *in!* (Meets federal specifications LLL—F—321 b) And because there are fewer joints and no knot holes, walls are more wind-tight.

BETTER INSULATING QUALITIES

The big, lightweight panels are easily handled, each panel spanning the space between seven studs. They go up so fast that two men can sheathe an average small home in half a day.

SPEEDS APPLICATION

The tough fibres are rendered moisture-resistant by National's Multi-Seal process. Asphalt coated surfaces and edges provide immediate weather protection so that interior work can proceed.

EXTRA MOISTURE PROTECTION

There is practically no waste when framework is enclosed with Gold Bond Insulation Sheathing...no lap loss, no random lengths. You get lower "in-place" costs with this improved sheathing.

LOWER COSTS

you'll build or remodel better with

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Over 150 Better Gold Bond Building Products including gypsum lath, plaster, lime, wallboards, gypsum sheathing, rock wool insulation, metal lath products and partition systems, wall paint and acoustical materials.

(*Continued from page 125*)

position. If the tool is dropped, the safety arm instantly pulls the firing pin out of reach of the cartridge. The stud is discharged only when the barrel is held solidly against the material and pushed in.

The cartridge is fastened to the stud by a piston-like arrangement that holds the stud firmly until it penetrates the material. This, plus the fact that there is very little clearance between the barrel opening and the stud, is said to make it virtually impossible for the stud to ricochet. The tool is designed to be operated with one hand — recoil is negligible.

Besides being used for fastening wood strips to concrete, the tool has many other applications such as installing electrical switch boxes, conduit and heating pipe hangers, and steel frames for glass block windows in concrete block exterior walls, all with great time-saving. Mine Safety Appliances Co., Pittsburgh, Pa.

ELECTRONIC EXHAUST SYSTEM

A new electronically controlled exhaust system for preventing the chimney-like spread of smoke and fire gases through a smoke-filled building was recently installed in a Hartford, Conn. department store.

The installation is reported to be the first to combine electronic smoke detection with an exhaust system for fire protection purposes. The technique uses a Walter Kidde Co. smoke detector and Westinghouse exhaust apparatus, and was developed from an exhaust, water spray system devised jointly in 1947 by engineers of the Westinghouse Electric Corporation, Otis Elevator Co., and Grinnell Co., Inc.

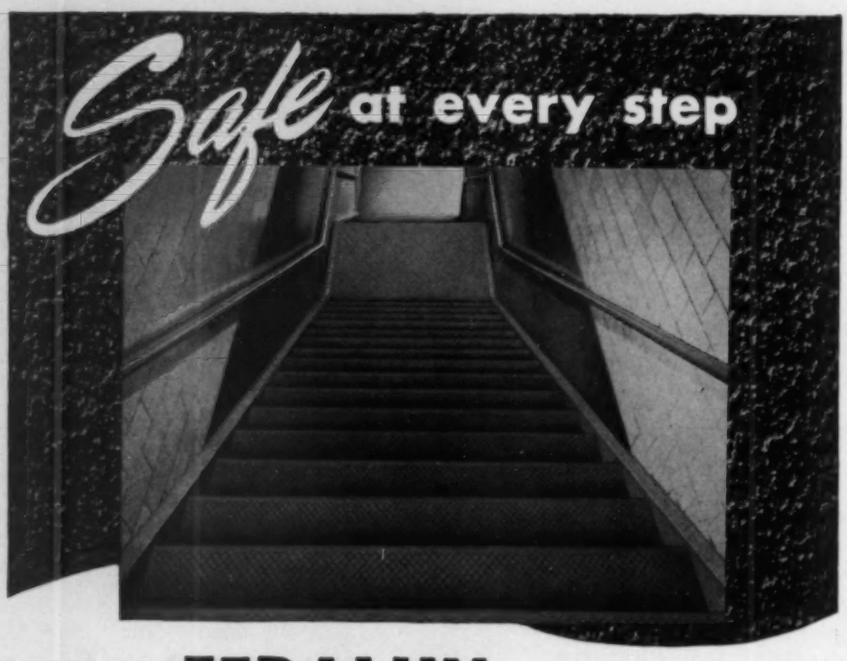
Electronic exhaust system automatically pulls out smoke, gases in case of fire

Sage-Allen and Co. had the smoke control system installed in conjunction with six Westinghouse electric stairways to afford protection in the case of fire against hot air, toxic gases and the possibility of panic.

To provide a controlled path for smoke removal, the system utilizes collection ducts surrounding the stairwell on each floor. These ducts lead to an exhaust fan on the roof which can draw out 32,000 cu. ft. of air per minute. Nearby on the roof is a louvered penthouse through which fresh air is drawn into the building.

Each floor has an independent detection unit. Through six small inlets on each floor, called accumulators, continuous samples of air are drawn by a

(*Continued on page 150*)



WITH FERALUN SAFETY TREADS

Workmen at the Curtiss Wright Plant, Propeller Division, Caldwell, N. J., go up and down these stairs . . . safe at every step.

Their shoe soles come to grips with non-slip Feralun Safety Stair Treads, cast iron, with wear-resistant abrasive embedded right in the walking surface.

Heavy traffic day in, day out — — but Feralun Safety Treads, built to take hard use, stay non-slip . . . last and last.

And that means low maintenance . . . and high safety.

4 TYPES:
Cast iron base . . . . . FERALUN
Bronze base . . . . BRONZALUN
Aluminum base . . . ALUMALUN
Nickel bronze base . . NICALUN

3 SURFACE STYLES:
hatched . . . plain . . . fluted

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☐ Please send me your catalog on non-slip stair treads, floor plates, thresholds, elevator sills, and safety tile.

☐ Please have one of your safety engineers contact me.

Name..... Title.....

Company.....

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City..... State.....

Pittco De Luxe Sill-Sash Combination

modern . . . versatile . . . easy to install

THE new Pittco De Luxe sill-sash combination gives the appearance of a single moulding combining the functions of sill and sash. Actually sill and sash are separate members designed to be used together in certain modern store fronts which require such a stylized assembly.

"Pittsburgh" research . . . aimed to help solve architectural and building problems encountered in the field . . . indicated the advisability of this type of construction. Sill and sash, being separate members, are installed separately. Thus the hazards of glass breakage are reduced to a minimum. Experience in the field also dictated the design which recesses the Carrara Structural Glass bulkhead, providing toe room and protection.

The sill of this new versatile combination is invertible. (See cross-sections.) It is shown above with Sash 12-A, but it may be combined effectively with any of the sashes in the Pittco De Luxe line. Setting procedures for all Pittco De Luxe members are so simple that a substantial saving in setting time is usually effected.

Pittco De Luxe Store Front Metal is formed by the extruded process, assuring both architect and owner of clear, sharp profiles and a finish rich in tone and gloss. It will satisfy the most rigid requirements for quality store front metal.

PITTCO STORE FRONT METAL

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

(*Continued from page 148*)

small fan to the basement. There a composite sample for each floor is formed continuously 24-hours a day and passed under the surveillance of an electric eye.

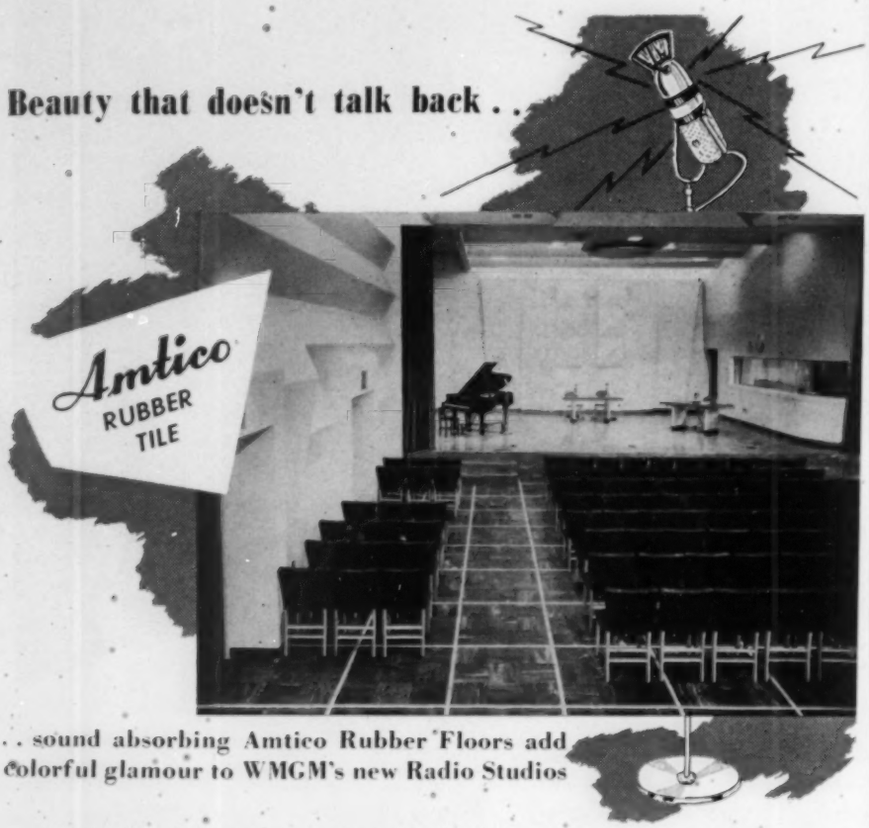
When even a slight amount of smoke is present, the electric eye activates the exhaust system, causes the electric stairways to stop and an alarm to ring in the boiler room. Then the collection duct damper opens on the floor where smoke is detected, all other floor dampers close and the fresh air intake opens.

Smoke is pulled into the collection ducts at a velocity of 14 mph. This movement creates a partial vacuum in the stairwell. As a result, fresh replacement air helps to push smoke into the collection ducts; the downdraft is said to prevent smoke from passing floor to floor.

Stopping the electric stairways converts them into conventional stairways so that both up and down units can be used for escape purposes.

Ethan Allen Dennison of New York was architect for the installation; Dwight D. Kimball, also of New York was the consulting engineer; The Southern New England Construction Co., Hartford, Conn. was the general contractor. Sage-Allen and Co., Main St., Hartford, Conn.

Beauty that doesn't talk back . .



. . sound absorbing Amtico Rubber Floors add colorful glamour to WMGM's new Radio Studios

BEAUTY — With Amtico Rubber Floors you gain the beauty of rare marble, plus carpet-like silence underfoot.

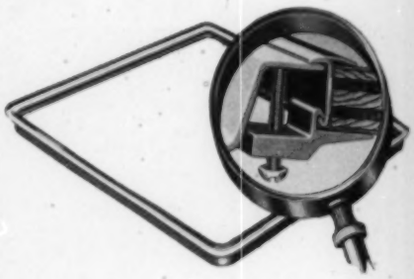
RESILIENCE — In WMGM's New York studios, restless feet aren't an annoying problem, for the floors are quiet, sound absorbing Amtico Rubber. Here are decorative floors that add a distinguished, colorful style-note to the smart interiors and at the same time reduce surface noise.

WEAR — Then too, Amtico floors are a long term investment. Easy to keep clean; they give years and years of wear-defying service.

EASY CARE — Whether you are designing a kitchen, a bank, or a theatre — look into the possibilities of adaptable Amtico Flooring, "America's Most Beautiful Rubber Flooring."

ADAPTABILITY — Eighteen style-wise colors make it easy for you to create custom floors that will be outstanding examples of your skill. A postcard today will bring you samples and descriptive literature.

AMERICAN TILE & RUBBER CO.
TRENTON, NEW JERSEY
Makers of Quality Rubber Flooring for over 30 years.



Stainless steel molding provides seal between sinks and counter top materials

STAINLESS STEEL PREFORMED MOULDING

Perm-O-Seal is a new stainless steel, preformed moulding designed for installation with Briggs Beautyware flat rim, built-in fixtures for both kitchen and bath.

This precision moulding is designed to provide a perfect watertight seal between linoleum, wood, composition or other counter top material and the fixture. The moulding is available for all types of flat rim kitchen sinks and the new flat rim *Guest* lavatory made by Briggs.

The one-piece construction makes Perm-O-Seal easy to install. A complete line of sizes makes it unnecessary to cut, shape or form the moulding at the installation site. No mitering of counter top material nor special tools are required. The interlocking frame and fastening clamps are said to insure a complete watertight seal between the fixture and the top material. Briggs Mfg. Co., 3007 Miller Ave., Detroit, Mich.

EMERGENCY LIGHT

An emergency lighting unit has been developed that plugs into any standard outlet. Whenever the regular lighting current fails or is interrupted, this unit switches on to provide flood lighting over a large area.

It is designed to meet requirements for automatic emergency lighting in

(*Continued on page 152*)

Ever hear of a FLEXIBLE OFFICE BUILDING?
WALKER UNDERFLOOR SYSTEMS ENGINEERED FOR Modern BUILDING DESIGN
50 ELECTRICAL OUTLETS ON ONE FLOOR!
RCA Modern Studios for Sound and Television Equipped with WALKER UNDERFLOOR SYSTEM!
walker of Conshohocken UNDERFLOOR SYSTEMS
Walkerduct is engineered ... TO FIT
Rexall Drug
Walkerduct
New Super Food Store Always Modern with WALKERDUCT
A THOUSAND ELECTRICAL OUTLETS AVAILABLE IMMEDIATELY FOR ANY CHANGE IN STORE LAYOUT
Serving FRUITFULLY

Modern Engineers Know How to "Duct" Their Distribution Problems

Electrical men, all over the country, are finding Walkerduct not only a convenience, but a practical necessity in providing new buildings with flexible power and telephone services.

With a Walker Underfloor Installation hundreds of electrical outlets are on "instant call" . . . ready to supply the immediate needs of today or the changing requirements of tomorrow.

Whether it's an office building, bank, store, school or factory, Walkerduct will answer each electrical need before it can become a problem.

WALKER BROTHERS
Conshohocken 36, Pa.

walker of Conshohocken

Write to us for our Catalogue No. 146 or consult Sweet's Architectural File for further details.

UNDERFLOOR SYSTEMS

Rigid Steel Conduit and Electrical Wires & Cables

(*Continued from page 150*)

theaters, hospitals, department stores, etc.

There are two independent floodlight heads, 5 in. in diameter, chromium plated. Brass, friction-type, corrosion-proof swivel joints hold the adjustable heads in any horizontal or vertical position.

The unit, known as the *Big Beam Model 2-AD Special*, operates on one 9-volt, standard dry battery. The container is of 20-gauge steel, designed with full-length piano hinge and two lever-type latches. It is finished in green hammerloid. Approximate weight is 18 lb. U-C Lite Mfg. Co., 1050 W. Hubbard St., Chicago 22, Ill.

LIGHTING SHOWROOM

Rooms of the remodeled Sylvania Lighting center in New York incorporate more than 20 ideas for utilizing light in the home. They illustrate how both fluorescent and incandescent lighting can be used decoratively to illuminate a wide variety of seeing tasks.

To visualize how an old house can be modernized, and to illustrate the contrast between the old and new, a reproduction of the living room in a typical home built 25 to 30 years ago has been constructed.

Mirrored fireplace wall (above) appears as shown below with box light turned on

Beside this poorly lighted room, the same area, remodeled, redecorated and lighted according to modern standards, forms the living room and basis for the new Lighting Center. Lighting is also demonstrated in a solarium-bar, sewing corner, alcove for use as a "garden room," dressing room, and for illuminating a work bench and staircase.

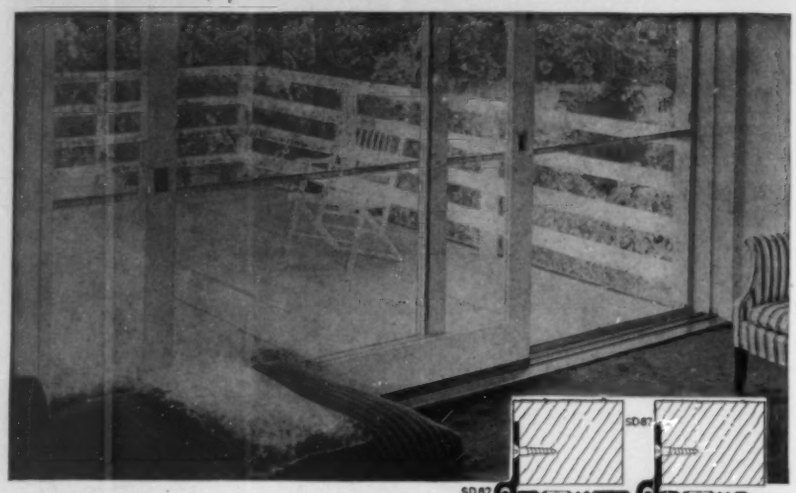
In the living room a 20 in. deep cove, containing two rows of fluorescent lamps, extends the entire length of the new combination living-dining room and across one side of the dining area to furnish general illumination. The intensity of lighting from this cove is sufficient for average seeing tasks such as reading or card playing.

A novel feature in the "remodeled" room is the fireplace wall which has been modernized with a full length mirror. The center section of the mirror becomes transparent when floodlights are turned on behind it, illuminating a floral arrangement placed in a shadow box.

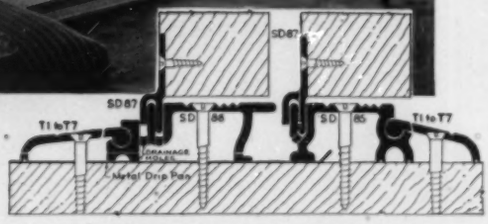
Other features demonstrated include lighted china cabinets and hobby niches,

(*Continued on page 154*)

WEATHER STRIPS FOR SLIDING DOORS



EXTREME EXPOSURE



SADDLE NO. 850-A FOR ONE OR TWO PAIRS OF SLIDING DOORS

But Thoroughly Weatherproof

The above home, atop a high cliff, illustrates a wise use of Accurate Metal Weatherstrip for the sliding doors. For here, in the most inclement weather, rain or snow cannot beat its way in when the doors are closed. Nor can the smallest insects find their way through. The Accurate brass saddle for sliding doors has no substitute. It is another of the improvements pioneered and patented by the Accurate organization in the past 43 years to make windows and doors weatherproof.

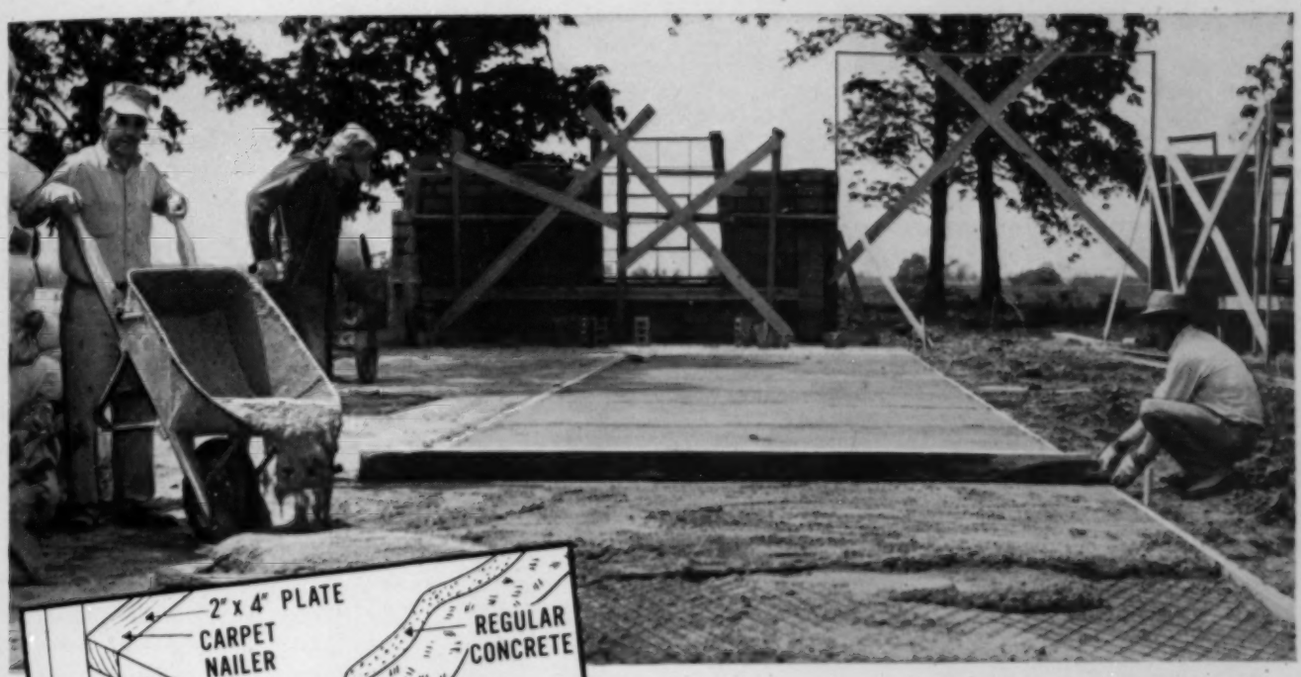
WRITE FOR SPECIAL FOLDER

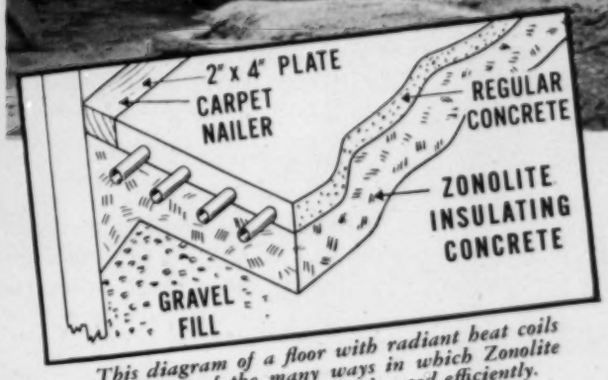
TRADE MARK ACCURATE REG. U.S. PAT. OFF.

ACCURATE METAL WEATHER STRIP CO., Inc.

215 East 26th STREET, NEW YORK 10, N. Y.

Now INSULATED GROUND LEVEL FLOORS CAN BE INSTALLED EASILY AND ECONOMICALLY with NEW INSULATING CONCRETE





This diagram of a floor with radiant heat coils shows one of the many ways in which Zonolite Vermiculite Concrete can be used efficiently.

SO EASY TO INSTALL

Zonolite Insulating Concrete is extremely light and is made by mixing portland cement with Zonolite Stabilized Concrete Aggregate—a material weighing only 8 pounds per cubic foot. Because it is so light and easy to handle, it can be efficiently and rapidly applied.

Here's How ZONOLITE* Vermiculite Concrete Gives You EXTRA ADVANTAGES

Architects and contractors are discovering a new type ground level floor that insulates against heat loss into the ground and is free from condensation the year around. This new floor is made of Zonolite Vermiculite Concrete, a revolutionary form of insulation.

Floors made with Zonolite Vermiculite are low in heat capacity, permitting better control of room temperature by minimizing heat lag—a real advantage when heating rooms. This advantage, combined with its insulating qualities, makes Zonolite Vermiculite Concrete the ideal base for radiant heat pipes installed in the floor.

Millions of square feet of Zonolite Concrete have been installed in large scale housing projects, industrial structures, college dormitories and many other type buildings. A fireproof Zonolite Concrete floor increases the building value and makes the property far more salable.

ZONOLITE BRAND VERMICULITE INSULATION

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135 South La Salle Street
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Dept. AR-19, 135 S. LaSalle St., Chicago 3, Ill.
Please send me FREE booklet that tells all the advantages of Zonolite Insulating Concrete for floor construction.

Name.....

Address.....

City.....*State*.....

**Zonolite is a registered trademark of Zonolite Company*

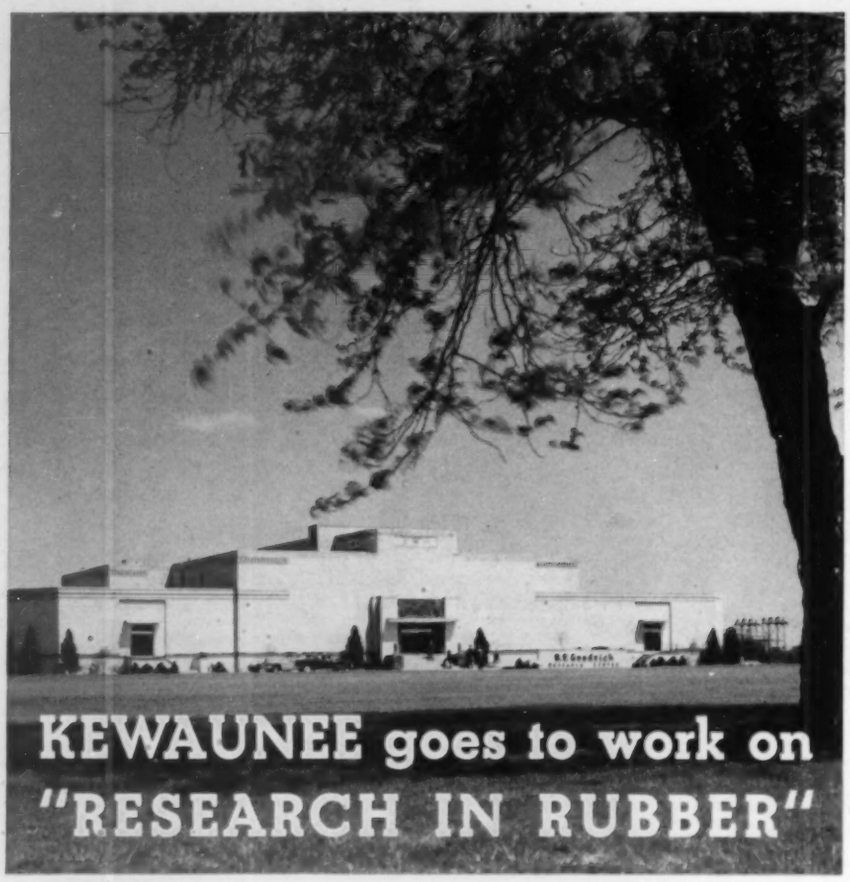
(*Continued from page 152*)

piano lighting, luminous ceiling in the solarium and an adjustable louvered ceiling in the powder room. Sylvania Electric Products, Inc., 500 Fifth Ave., New York, N. Y.

LAMINATED PLASTIC

Kalistron, a laminated plastic covering for walls, upholstery, furniture and store counter tops, has been developed to combine decorative features with resistance to abrasion, marring, scuffing and immunity to stains. By embossing and fusing color into the underside of clear vinyl sheets, 3-dimensional effects are said to be achieved.

Kalistron is produced both with and without backing material — the former for installations which require adhesion to a base surface, as in walls and paneling and the latter for use where adhesion is not required, as in upholstering. In manufacturing Kalistron, the underside of the vinyl sheeting is embossed in a desired pattern, coated with specially prepared plastic paints and backed with a suede-like material. United States Plywood Corp., Flexwood and Flexiglas Division, Weldwood Bldg., 55 W. 44th St., New York, N. Y.



New B. F. Goodrich Laboratory is Kewaunee Equipped

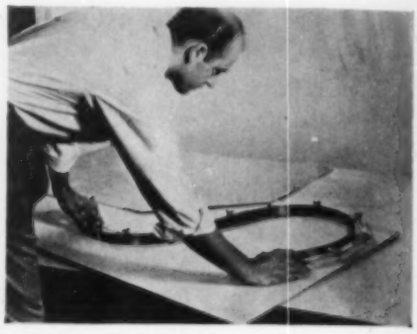
Kewaunee Laboratory Furniture is designed and engineered to fit practically any industrial research program or laboratory requirement. That's one reason why B. F. Goodrich chose Kewaunee for its new Research Center at Brecksville, Ohio.

The new Kewaunee metal units are heavier and sturdier than ever, with new, huskier door and drawer suspension. Metal surfaces are Bonderized. Working surfaces are Kewaunee's patented KemROCK —highly resistant to acids, alkalies, solvents, and physical shock.

Through and through, Kewaunee is custom quality—at ready-made prices. Write for full details. No obligation.

Kewaunee Mfg. Co.
C. G. Campbell, *President*
5046 S. Center St., Adrian, Michigan

Representatives in Principal Cities



Template can be set, locked in any shape

FLEXIBLE TEMPLATE

A flexible template has recently been designed, according to the manufacturer, to permit duplication of any desired contour, curve or radius. The template can be quickly set and locked in any desired shape. When unlocked, it springs back to its original position ready for re-use.

Made of spring steel and aluminum, the flexible template can be used in: pipe and conduit bending, linoleum inlaying, sheet steel shaping and many other similar applications. R. J. Turner Co., Inc., 2404 N. Mascher St., Philadelphia 33, Pa.

ALUMINUM VENETIAN BLINDS

Ra-tox Analum Venetian blinds feature a special non-glare finish called *Alumilite No. 90* which is said to reduce sun glare and eliminate disturbing reflections. The blinds are neutral in color to harmonize with any decorative scheme.

The *Alumilite* finish, an integral coating of aluminum oxide, is said to be one of the most durable finishes known, having a high resistance to atmospheric corrosion.

Slats for the Ra-tox Analum blinds are constructed of aluminum sheeting 2 in. wide by 0.010 in. thick with sufficient flexibility claimed to permit a transverse bend of 1¾ in. radius without deformation when released. Slat corners are slightly rounded. Cord slots are punched smooth and burr-free.

The Venetian blinds are manufac-

(*Continued on page 156*)

THRUSH

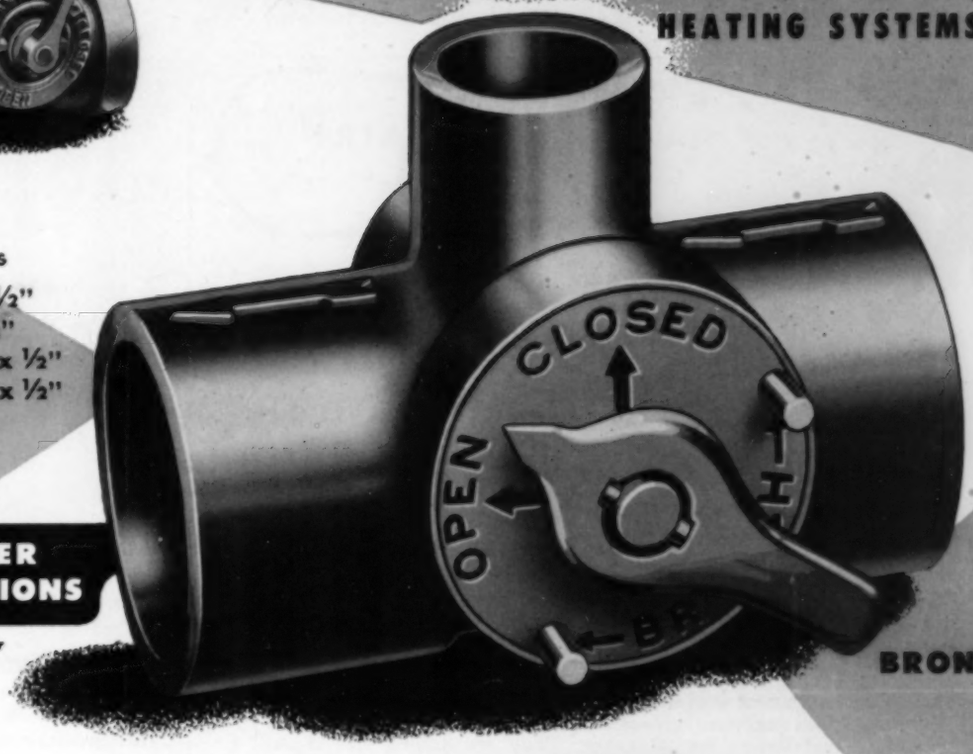
Adjustable Supply Tee

FOR BALANCED ONE-PIPE HOT WATER HEATING SYSTEMS

CAST IRON

Bronze Sizes

¾" x ¾" x ½"
1" x 1" x ½"
1¼" x 1¼" x ½"
1½" x 1½" x ½"



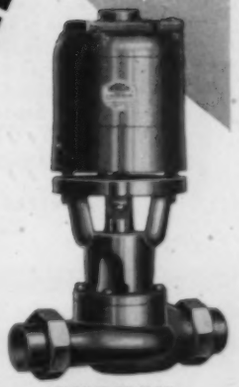
SOLDER CONNECTIONS

Patent Applied For

BRONZE

now available in BRONZE

NOW YOU can give your customers the finest one-pipe Thrush Ajustaflo Hot Water Heating with forced circulation and year 'round domestic water supply, using either iron or copper piping. The famous Thrush Adjustable Supply Tee permits accurate adjustment of heat from each radiator. Better heating increases customer satisfaction, builds your reputation. See our catalog in Sweet's or address Department J-1.



THRUSH
WATER CIRCULATOR

H. A. THRUSH & CO. • PERU, INDIANA

(*Continued from page 154*)

tured to fit all sizes and types of window casements, whether of wood, steel, or aluminum. The Hough Shade Corp., Janesville, Wis.

EVAPORATIVE CONDENSERS

Eight new evaporative condensers have been introduced by Frigidaire Division of General Motors which use both air and water spray to cool refrigerant vapor and change it to liquid during the course of a refrigeration or air conditioning cycle.

By employing forced air and a pressurized water spray instead of the ordinary circulating water system, the new condensers are said to reduce water consumption as much as 90 per cent for buildings where large air conditioning and refrigeration systems are installed.

The new models, with refrigerating capacities from 2 to 50 tons, are engineered to solve water disposal problems where drainage facilities are limited, to cut operating expense and to improve compressor efficiency.

Operation of the evaporative-type condensers is as follows: fans draw air into the unit through an intake grille, and at the same time water is sprayed into the air stream, wetting the surface of the condensing coil. The action of both air and water thus change the vapor to liquid state. Frigidaire Div., General Motors Corp., Dept. of Public Information, Dayton 1, Ohio.

IF YOUR PROBLEM IS **AIR!**
COOLING, HEATING, VENTILATING

REINFORCE YOUR SKILL WITH

Air-gineering

BY usAIRco

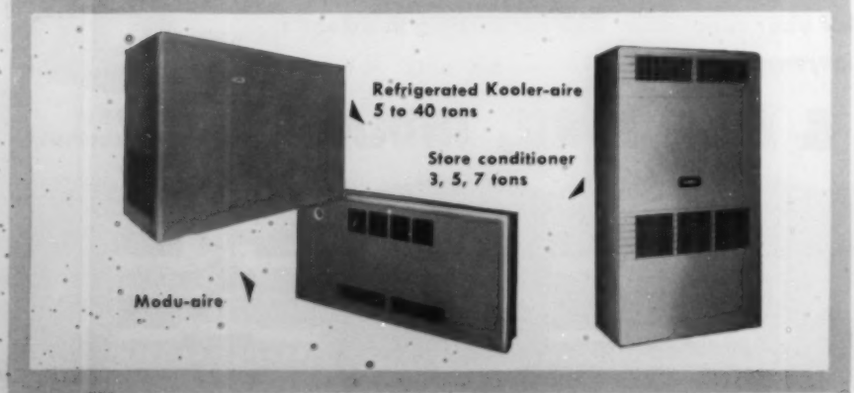
● Air-gineering is the name we've given to our cooperative engineering service. This counsel is available to you in the design application of equipment to any air problem . . . cooling, heating, ventilating.

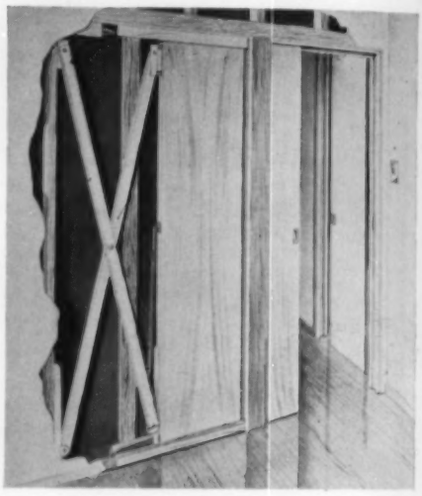
If ever you should need such assistance it's good to know that competent engineering talent is ready to *lend a hand.* usAIRco engineers have been designing equipment, systems and installation for 25 years. They are among the most experienced in the industry.

The usAIRco line is complete . . . blowers, coils, washers, evaporative condensers, unit heaters. Refrigerated Kooler-aire is a refrigerated central system providing cooling and heating, 5 to 40 tons, delivered ready for installation. Modu-aire is a room conditioner, for hotels, apartments, offices, serviced by a central station. usAIRco store conditioners are made in 3, 5, 7½ tons.

We'd like to have our complete catalog in your files. We'll send it, at your request.

UNITED STATES AIR CONDITIONING CORPORATION
Como Avenue S. E. at 33rd, Minneapolis 14, Minnesota





Scissor mechanism for sliding doors eliminates tracks and fits in 4-in. partition

DOOR HANGER

Described as an entirely new departure in door suspension is the *Dorflo* "Floating Action" door hanger. Using neither tracks at the bottom nor hangers above, Dorflo doors are suspended by a steel scissor mechanism which is said to be noiseless, fool-proof, rugged and simple in operation.

The Dorflo mechanism is claimed to offer, besides space saving advantages, easy operation due to the means of balancing. Dorflo is installed in any conventional 4-in. wall; there are only two brackets and two runners to secure. If a door should become damaged, or bind at the floor or ceiling because of settling, removal of the door from its hanger for repair or adjustment is said to be easily done. Dorflo Mfg. Co., 1902 First Ave., Hibbing, Minn.

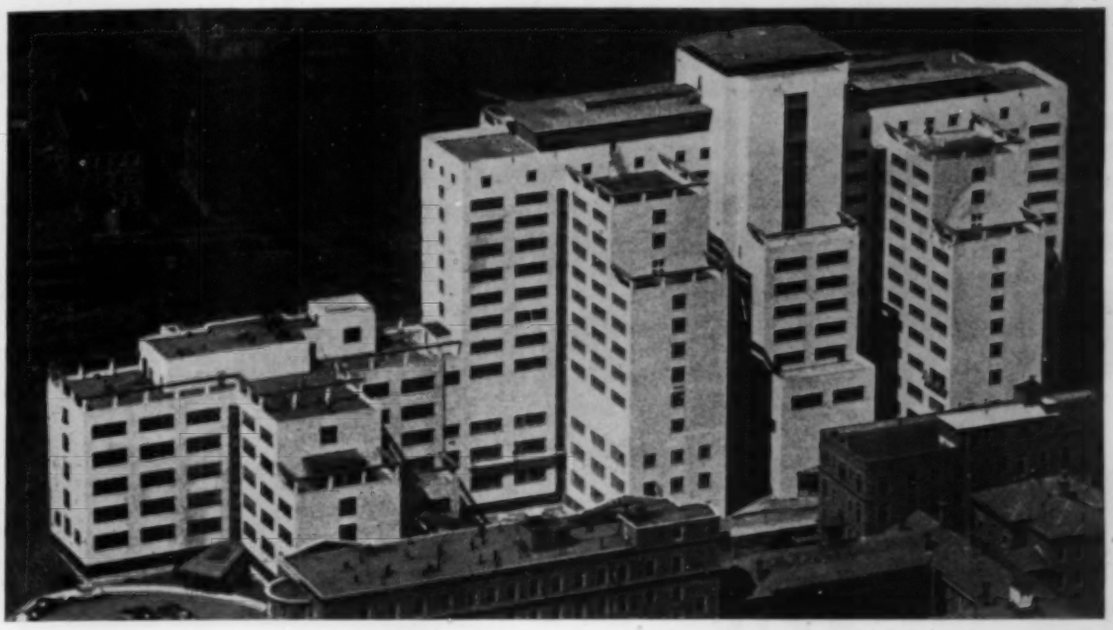
ELECTRIC DISHWASHER

Advantages listed by Hotpoint, Inc. for their new electric dishwasher include: a simplified drain system located at the front to reduce installation costs; a dial

(*Continued on page 158*)

Save your clients future redecorating expense ...

Specify FABRON for walls and ceilings



THE HARTFORD HOSPITAL, Hartford, Conn. Coolidge Shepley Bulfinch & Abbott, *Architects.*

Dedicated in March, 1948, this beautiful new 820-bed building replaces the old hospital (foreground) founded in 1854. It is one of the largest, most modern and most efficiently equipped postwar hospitals. Fabron was used throughout—in patients' rooms, corridors, staircases, dining quarters, offices—wherever the surface to be decorated was of plaster.

ONE REASON why FABRON, the fabric-plastic-lacquer wall covering, has been adopted by well over a thousand institutions in the hospital field alone is its proven record as a budget saver. For FABRON with its double function—decorating and preserving that decoration — was engineered for long-range economy. It eliminates periodic repaintings—a vitally important advantage to institutions whose operating funds are limited.

Permanently protects plaster. Fabron's sturdy canvas and plastic base strengthens plaster . . . conceals surface imperfections . . . prevents cracks that require complete room redecoration after repairs.

Service by the decade. Fabron actually toughens with age—will not peel or scale. Outlasts conventional decorative treatments by several redecorating periods. If gouged, it can easily be repaired invisibly through the "inlay method".

Sunfast and washable. Fabron's modern lacquer surface permits unlimited washings and disinfectings without harm to the sunfast colors. Keeps rooms fresh and attractive.

More than 150 Fabron patterns, colors and textures —*styled especially for institutional needs*—permit decorative latitude impossible to achieve with conventional interior finishes. And—Fabron prevents fire-spread. Every roll carries the label of the Underwriters' Laboratories, Inc.

Initial cost of Fabron falls within the average budget. Before specifying the interior finish for your next new building, investigate Fabron. Send the coupon today!

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fabron
REG. U. S. PAT. OFF.

the fabric-plastic-lacquer wall covering

FREDERIC BLANK & CO., INC.
Established 1913
230 Park Avenue, New York 17, N. Y.

See our CATALOG in SWEET'S FILE ARCHITECTURAL

FREDERIC BLANK & CO., INC., 230 Park Avenue, New York
Please send us samples of Fabron and information concerning its use in:

☐ Hospitals ☐ Hotels ☐ Schools ☐ Theatres
☐ Restaurants ☐ Offices ☐ Apartments ☐ Residences

Name .....
Address .....
City & Zone ..... State .....
AR 1-49

(*Continued from page 156*)

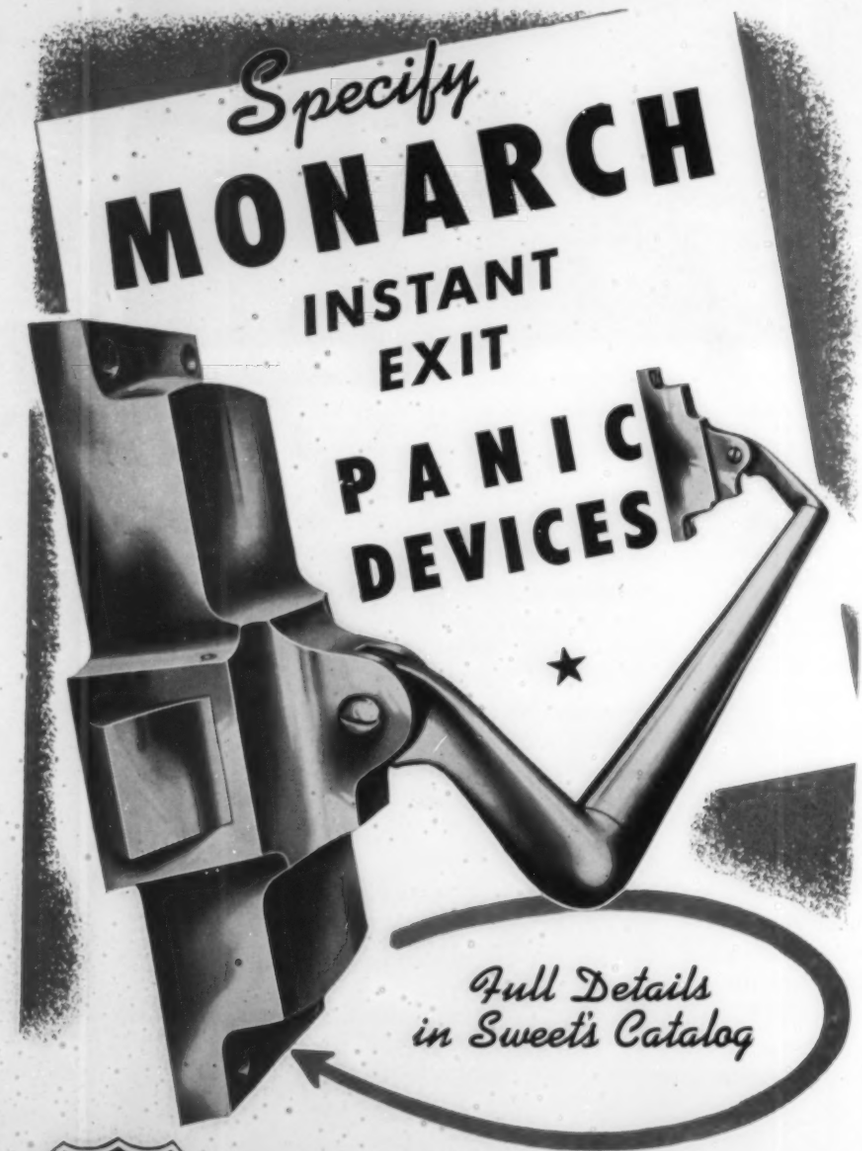
control which permits greater flexibility of operation; a new self-sealing aluminum door requiring no gaskets or door springs; and a one-piece, wrap-around cabinet.

The dishwasher is available in three models — the 27 in. MC4 under-the-counter model; the MC5 free standing unit, equipped with a counter-height top and backsplasher; and the MC6 which is incorporated with a 48 in. sink, and *Disposall* if desired. All models have work surface area, top spray, front opening and electric drying. Hotpoint, Inc., 5600 W. Taylor St., Chicago 44, Ill.

WINDOW FRAME

Malta Universal is a new, all-purpose window frame for wood, brick, masonry, and block constructed buildings. Made of western pine, the window frame has outside casing already attached to the frame, is bored for overhead balances, is weather-stripped and incorporates a patented jamb, head and sill construction feature.

Each frame is slotted along the inside top and sides to permit conversion from ¾ in. to ½ in. sheathing. The frame is furnished for ¾ in. sheathing but can be converted on-the-job so that it may be used where ½ in. sheathing is specified. Malta Mfg. Co., Malta, Ohio.

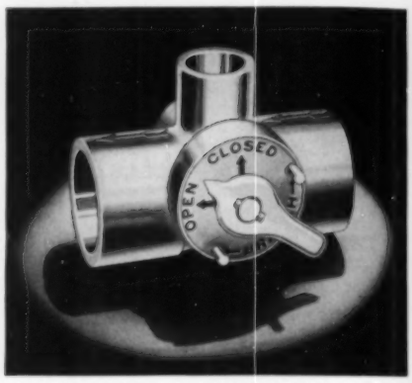


ANOTHER GREAT C&L PRODUCT

Mortise, Rim and Vertical Rod Types, that deliver steadfast *instant exit* service in heaviest traffic use, through untold years of service.

Write for literature.

CLAYTON & LAMBERT MFG. CO.
1705 DIXIE HIGHWAY • LOUISVILLE 10, KENTUCKY



Bronze supply tees adjust radiator flow

ADJUSTABLE SUPPLY TEES

Bronze, adjustable supply tees with solder connections for copper, one-pipe hot water heating installations are now available in the following four sizes: ¾ by ¾ by ½ in., 1 by 1 by ½ in., 1¼ by 1¼ by ½ in., and 1½ by 1½ by ½ in.

The *Adjustable Thrush Supply Tee*, originally developed in cast iron with threaded connections and now available in bronze (solder connections), is reported to be an important improvement in the single main method of forced, circulating, hot water heat.

Important features listed by the manufacturer are: (1) any amount of flow can be diverted through each radiator, (2) restricting branch flow increases flow through the main, (3) shutting off a radiator opens the main flow completely, (4) all radiators can be the same temperature or certain rooms can be kept at a lower temperature, (5) guess work in balancing radiator or convector output is eliminated, and (6) only one Adjustable Tee is needed for each upfeed radiator. H. A. Thrush & Co., Peru, Ind.

T SQUARE

A plastic T Square, the *Instrumaster*, has been designed to provide long life, continued accuracy, complete view of

(*Continued on page 160*)

Get your free copy of the rules of the

Chicago Tribune's Third Annual

BETTER ROOMS COMPETITION

$25,000.00 in 145 Cash Prizes

ranging from $100.00 to $1000.00 each
for the best ideas for furnishing and decorating typical rooms of homes

ALL ENTRIES MUST BE RECEIVED BY 5 P. M. OF APRIL 4, 1949

DO YOU have ideas for furnishing and decorating a living room or a dining room, or a bedroom, or a living-dining room, or a kitchen-dining room, or an "extra" room, or a one-room home?

In order to present to readers again this year the fullest range of suggestions for furnishing and decorating various rooms of homes, the Chicago Tribune is conducting its Third Annual Better Rooms Competition, offering $25,000.00 in 145 cash awards for the best entries presenting ideas on this subject.

Just as the Chicago Tribune's similar competitions in 1947 and 1948 brought forth a wealth of original ideas which set the pace in this field of popular interest, so the 1949 project has been designed to set new high standards of excellence in home interior fashions.

This year's competition presents for solution seven different furnishing and decorating problems based on the needs of specific family groups and circumstances, giving the entrant stimulating challenges to his ability and ingenuity.

Here is your opportunity to plan one or more interiors just the way you would have them. And here is your chance to win substantial monetary award and national recognition for your efforts.

After the prize-winners have been chosen, the Tribune plans to give them widest publicity. Week after week, the newspaper intends to reproduce the winning ideas, or adaptations of them, in full color in the Sunday Tribune with its more than 1,625,000 circulation.

Everyone is eligible to compete, except employes of the Chicago Tribune and its subsidiaries, members of their families, and of the Jury of Awards, which will be composed of persons competent and skilled in this field.

For complete information about how to submit an entry, write today for your free copy of the rules which will be sent postpaid. As is made plain by the anonymity provision in the rules, all entries will enjoy equally fair consideration in the judging.

Fill in the coupon below, paste it on a postcard and mail today. All entries must be received not later than 5 p.m. of Monday, April 4, 1949.

MAIL THIS RULES REQUEST FORM TODAY

"BETTER ROOMS" COMPETITION
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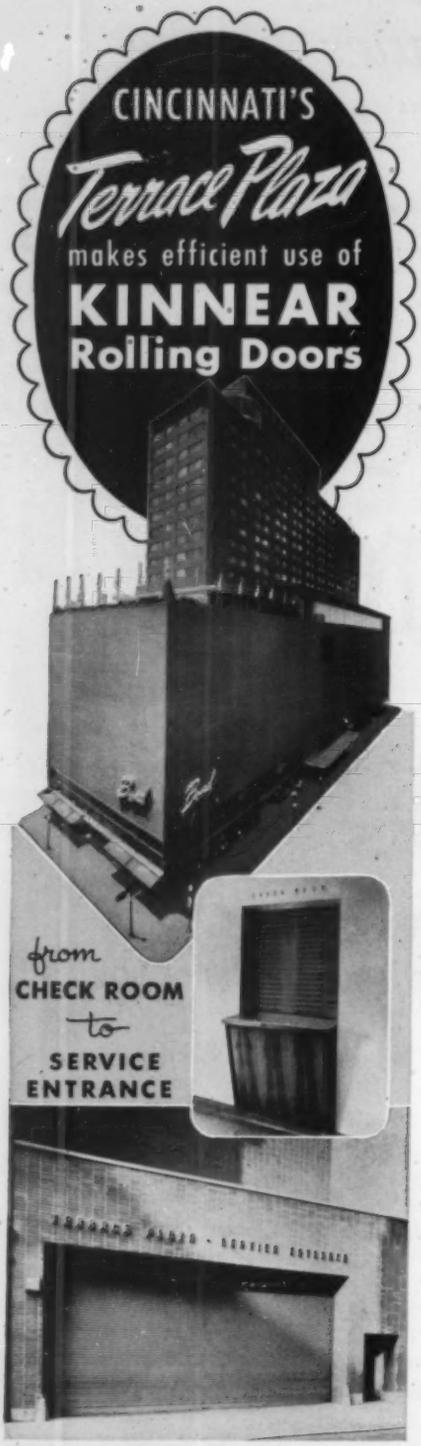

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ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

(*Continued from page 158*)

the work area and to reduce the possibility of smudging. Specifically, the manufacturer lists advantages as: (1) the head and blade are one integrated piece of shatterproof plastic so that the T square remains accurate even if dropped; (2) the clear plastic permits full visibility of the whole work area; (3) both sides of the T square are usable; (4) the ribs, which protrude .020 in. above and below, enable the T square to be moved smoothly across the work area and lessen the danger of smearing and smudging. The T square is now available in 18 and 24 in. lengths. Instrumaster Industries, 2456–54 W. Jackson Blvd., Chicago 12, Ill.

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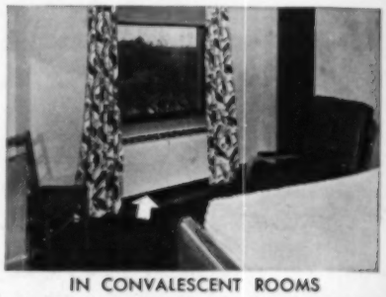

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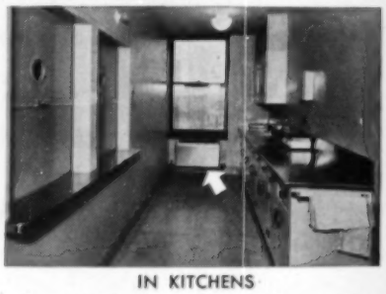

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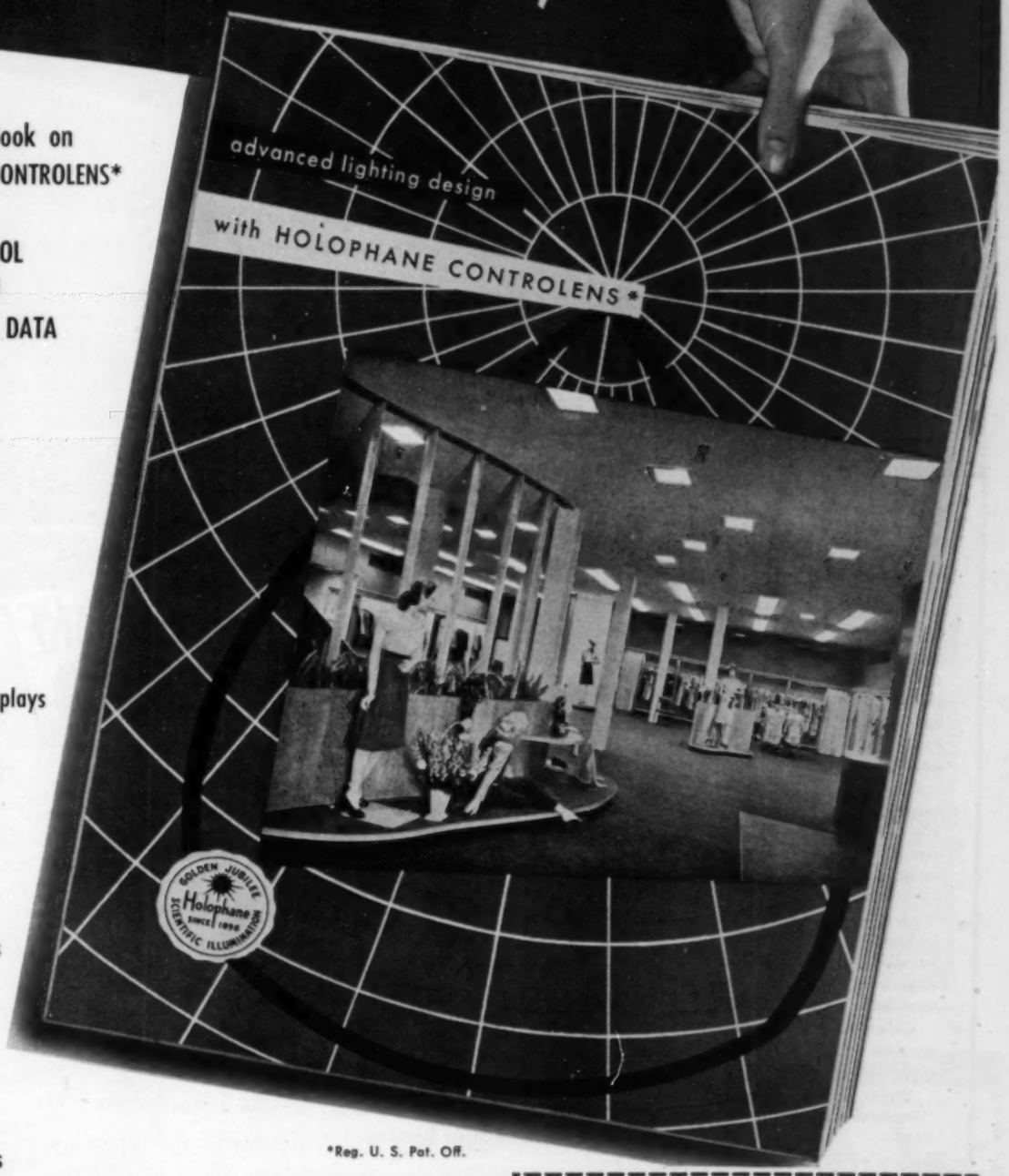

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(*Continued from page 126*)

dustrial use is pictured and described.

Diagrams, photos and dimensional tables are used in presenting advantages of the furniture and other pertinent information. 8 pp., illus. John E. Sjostrom Co., 1717 N. 10th St., Philadelphia 22, Pa.

Rolling Doors

Cornell Rolling Doors. Describes construction, applications and operation of rolling steel doors, rolling grilles, sliding grilles, and upward acting doors in wood and steel. Specifications and detailed drawings are included. 8 pp., illus. Cornell Iron Works, Inc., 36th Ave. and 13th St., Long Island City 1, N. Y.*

Electrical Dimmers

(*1*) *Vitrohm Non-Interlocking Dimmers* (*Bulletin 71*), (*2*) *Vitrohm Interlocking Dimmers* (*Bulletin 72*). Besides describing the operating features, construction and installation of various dimmer models, these bulletins contain typical wiring diagrams, dimensioned drawings and other engineering details. 4 pp., 12 pp., illus. Ward Leonard Electric Co., 31 South St., Mount Vernon, N. Y.

Vibration Control

Korfund Vibration Control (*Bulletin No. G-101.*) The advantages and limitations of spring mountings, rubber mountings and cork materials in the control of vibration, together with data on their installation and uses are given in this bulletin. A selector chart tabulates more than 50 typical machine and equipment applications and gives recommendations for proper types of *Vibro-Isolators* for highest efficiency. 4 pp., illus. The Korfund Co., Inc., 48-08A 32nd Place, Long Island City 1, N. Y.

Gymnasium Seating

(*1*) *Modern Gymnasium Seating;* (*2*) *Modern Gymnasium Seating Capacity.* These two folders were prepared by Harold R. Sleeper, A.I.A., for the Gymnasium Seating Council. The first covers the need for seating, various seat types, space saving features of folding gym seats, cost comparison between fixed and folding gym seating, space requirements, general and detailed planning and specification notes. Gymnasium plan types are included.

(*Continued on page 164*)

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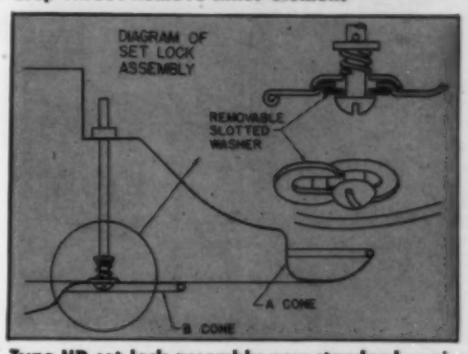

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